GenCore version 4.5 GenCore version 4.5 Coppright (c)  $1993 \cdot 2000$  Compugen Ltd

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DR seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
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72
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Pred No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		4			SUMMARIES	
Result		Query		3	;	7
. No.	Score	Match	Match Length DB	먊	ID	Description
<b></b>	72	100.0	13	<u></u>	AAW30330	Peptide 43-55 wit
2	7.7	na a	15	۵	ALFORMAN	Cyclic peptide 43-
Ç.	72	100.0	16	20	AAY41983	Rheumatóid arthr
4	72	100.0	19	19	AAW66275	Circularly permute
S	72	100.0	141	13	AAR296U6	Mutant human alpi
6	7.	100.0	141	13	AAR29608	Mutant human alpha
7	17.	100.0	141	14	AAR 305 5 4	Titusville alpha
œ	70	100.0	141	14	AAR 32988	Human alpha Haem
5	72	100.0	141	14	AAR42631	Natural alpha-qlo
10	72	100 0	141	.5	AAPS513	Human alpha hacmog
11	72	100.0		Į,	AAR44516	adult buman alak

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	ALIGNMENTS					
Alpha globin polyp	AAE08113	11	146		÷.	<del>4.</del> 
Crocodile alpha-ql	AAP70979	٦,	141	ν α	7 ]	44
Low oxygen attinit	AAF39728	<u>-</u> -	 <del></del>	3. at.	71	4 m (n
Him Motowa, Harette	AAR39727	11	Ξ		7 ]	÷
Human adult alpha	•	14	141		71	4 1
DNA sequence of th	AAW54284	19	573		72	40
DNA sequence of th	AAW54283	19	285	100.0	72	99
[(des-Vai)-aipha-(	AAR08114	<u></u>	284	100.0	72	S)
Protein sequence o	AAW54282	19	283		72	3.7
(bes Val) alpha-(G	AAR79457	 	283	190.0	-3 E-	13
	П	20	 		7	.u n
	AAB66773	ta ta	-	190.0	17	رين منه
	AAY79379	21	141		72	نيا
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	AAW84541	20	14:		72	31
	AAY01376	20	141		72	30
1	AAY09056	20	<u>-</u>		-J	29
	AAW73386	19	141		72	28
	AAW73384	S	11		د . د ا	10
Human alpha-haemod	AAW11868	18	141		7.2	26
Human alpha-haemod	AAW10470	18	141		7:2	25
Rocombinant wild t	AAW30716	18	141	100.0	72	24
Haemoglobin alpha	AAW30726	 œ	1.4.1		72	<b>63</b>
Haemoglobin alpha	AAW30725	18	141		72	22
Haemoglobin alpha	AAW30724	1 8	141		72	21
Native human haemo	AAW 30731	18	141	00.	72	20
Haemoqlobin alpha	AAW30734	ь.я ОС	141		-7	19
Haemoqlobin alpha	AAW30733	18	141		72	18
The alpha chain of	AAWROR12	<u></u>	141		72	17
alpha	AAR97359	17	141		72	16
human	AAR44520	15	141	100.0	72	15
human	AAR44519	15	141		72	14
human	5	15	141	100.0	72	13
Adult human alpha-	AAR44517	5	141	100.0	72	12

XX C XX	200
	PO-ARR 1968 (first outry)
	Reptide 45:55 with stem cell inhibitory/stimulatory activity.
	ENTROL, Stee soil, hall block of the
	alpha chain, hacm globia, radi dherapy, chometherapy, cancer:
	stem cell exhaustion.
	Synthetic.
	Homo sapiens.
	W09736922-A1.
	09-OCT-1997.
	03-APR-1997; 97WO-0805601.
	03-APR-1996; 9698-0627173.
	(PRON-) PRO-NEURON INC.
P 7	Tsyrlova I, Wolpe SD:
V D >	WPT; 1997-503044/46.
773	Haemoglobin alpha chain derivatives— ased to inhibit or stimulate stem cell proliferation, for treatment of cancer, immune depression

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Best Local :
                      Bedregistin apply sharp derivatives
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stem cell proliteration, for treatment of cancer, immune depression
                                                                    White these constables
                                                                                                                lsythoga I. Wolpe SD
                                                                                                                                                                 (NORTH NORTH (NORTH)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INPROL: Some cell: inhibition; stimulation; proliferation; myoglobin; alpha chain; bacmediobin; tadiotherapy; chemotherapy; career; differential protection; item cell mypoproliferation; aphastic anaemia; ctem cell extension; aphastic anaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAWEERI* standard peptides 15 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Section there:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            can also be used for differential protection of normal stem cells, but not cancer cells, from obswortherapy or radiation, particularly after normal stem cells have been induced to proliferate by therapourle treatment. The populate can also be used to control of atom cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               inhibit stem cell proliferation, particularly during indicthorapy or chemotherapy of cancer, but more generally wherever a mammal is exposed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           structure of the alpha chain present in buman bacmoglobin, and the present pertude identified as a region which is structurally different trom myosfobin in Edimensional space. The peptide is used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                inhibitory activity on stem cell proliteration. The (dimensionstructure of mycelobin was superimposed into the (dimensional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20 APR 1998 (tirst entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             allow precise control over cycling at these cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         to an agent, e.g. an antiviral, that damages or destroys stem cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present peptide is an INPROL peptide that has stimulatory and inhibitory activity on stem cell proliteration. The \beta dimensional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 45: Page 116: 162pp: English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Symbol populable 43.55 with stem cell inhabatory/stimulatory activity.
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                      used to inhibit or stimulate
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Disclosure: Page 20: 157pp; English
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                                                                                                  Diagnosis of human theamatoid artheitis by two dimensional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; rheumatoid arthritis; RA: diagnosis; REI; RADE; detection; rheumatoid arthritis diagnostic (cataro; ERFI; symovial fluid; rheumatoid arthritis diagnostic protein isolerm; screening;
                                                                     electrophoresis
                                                                                                                                                                       WPT: 1999-571871/48
                                                                                                                                                                                                                                            Parekh RB, Patel IP,
                                                                                                                                                                                                                                                                                                                 (OXFO-) OXFORD GLYCOSTIENCES UK LITE
                                                                                                                                                                                                                                                                                                                                                                                         13 · MAR - 1 998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W09947925-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        expression reference protein isoterm; prognosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rheumatoid arthritis diagnostic protein isoform peptide #134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-DEC-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY4198 ( standard; Peptido; 16 AA
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        feature whose relative abundance correlates with the presence or absence of RA: and (c) comparing the abundance of each chosen feature in the sample with the abundance of that chosen feature in serum or plasma from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     arthritis (RA) using two-dimensional electrophoresis to generate a two-dimensional array of features. The method can be used for servening, diagnosis and prognesss of RA in a subject of for monotoring the effect
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           permuted haemadlobin; gobin; pHb; red blood cell; blood transfusion; sickle cell; stroke.
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                               New haemoniobin permutein with non-naturally occurring termini - useful for the treatment of any condition where therapy includes red
                                                                                                                                                      WPI; 1998-481141/41.
                                                                                                                                                                                                                                                                                                (SOMA:) SOMATOGEN INC
                                                                                                                                                                                                                                                                                                                                                                               28-FEB-1947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-FEH-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W09838211-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  haemaglobin; circularly permuted; N-terminus; C torminus; multimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Circularly permuted di-alpha haemaglobin-like peptide fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-NOV-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW66275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW66275 standard: peptide; 19 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          dimensional array of features; (b) identifying at least one chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A method has been developed for the diagnosis of human rhoumatold
blood cells or oxygen delivery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     an anti RA drug or therapy administered to a subject. The method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 FPHFDLSHGSAQV 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 fphidlshgsagv 15
                                                                                                                                                                                                                             Olins For
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                               9708-0039657
                                                                                                                                                                                                                                                                                                                                                                                                                                                       98WO-US03836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 72; DB 20; Length 16; 100.0%; Pred. No. 5.4e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
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Disclosure: Page 10: 22pp: English

mutation was then added to the sequence.

The mutation introduced produced

The sequence was mutated by

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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             claimed is a nucleic acid encoding the above pHb. pHb can be used as a substitute for red blood cells whenever red blood cells or oxygen delivery is required, particularly in the treatment of haemorrhages,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          angioplasty balloons, and surgical instrumentation, and to treat tissue ischaemias including stroke, emerging stroke, transient ischemic attacks, myocardial stunning and hibernation, agute or unstable angina, and
                        This sequence was not disclosed in the specification. globin gene sequence was obtained from Swiss.prot. no.
                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_difference 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Totramer intramolecular crosslink; oxygen exchange erythrocytes: HIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mutant human alpha-globin 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR29606 standard; Protein; 141 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             maging. The permuteins have increased stability and expression during E. coli synthesis and a greater in vivo circulating half life compared to the fused Hb molecules of prior art. The present sequence is shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               patient's own blood and anaemia, to deliver oxygen to tissue sites that
red blood cells cannot penetrate, including site downstream of an
                                                                              Disclosure; Page 13; 42pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR29606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               traumas, and surgeries requiring blood transfusion or reintusion of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a haemoglobin permutein (pHb), containing at icast one globin with non-naturally occurring N and C termini. Also
                                                                                                             cell-free blood substitute
                                                                                                                           Transgenic, crosslinked polymeric human haemoglobin – useful as
                                                                                                                                                              N-PSDB; AAQ26424
                                                                                                                                                                                                               McCune SL, lownes IM
                                                                                                                                                                                                                                            (UYAL-) UNIV ALABAMA RES FOUND
                                                                                                                                                                                                                                                                             20-DEC-1990;
                                                                                                                                                                                                                                                                                                               20-DEC-1991;
                                                                                                                                                                                                                                                                                                                                                09-JUL-1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in the specification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               infarct. The invention can also be used to deliver drugs and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              obstruction as in thrombi, sickle cell occlusions, arterial occlusions,
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                                                                                                                                                                              1992-250026/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                             9008-0630825
                                                                                                                                                                                                                                                                                                               91WO-US09624
                                                                                                                                                                                                                                                                                                                                                                                                           /label= alpha_92_Arq_to_Cys
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 72; DB 19;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Multipliers
            polymerisation intramolecular crosslink. This aldein molecule has exysten exchange characteristics sufficiently close to matural hazarded into the list use in a cell tree blood substitute. The mutated descending this protein can be used in a construct designed to expression of pure modifical mean BCs in the crysthocytes of now hamn transactic animals. The BCs are non-minute exercises of the used without the need for blood typing. Also
                                                                                                                                                   This sequence was not disclosed in the specification. The alpha globin dene sequence was obtained from Swiss.prof, no. AMPOISZ2. The matation was then added to the sequence. The sequence was mutated by polymerose chain reaction. The mutation introduced produced
                                                                                                                                                                                                                                                        Disclosure: Page 14: 42pp: English
the transperse HD will be tree of such viruses as HIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tetramed intramederatar crosslink. This alabin molecule has exygen exchange characteristics sufficiently of so to natural haemodobin (Hb) to enable its use in a cell free blood substitute. The mutated sens custoffing this profession he used in a construct designed for expression of pure, modified human Ha's in the crythropytes of non-characteristic initials. The Hb's are constructed so can be used to the construction of pure.
                                                                                                                                                                                                                                                                                             cell free blood substitute
                                                                                                                                                                                                                                                                                                                transagnie, crossinsked polymeric human haemoglobin
                                                                                                                                                                                                                                                                                                                                                       N PSDB: AAU25425
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mutant hasan alpha globac 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              button transferic initials. The HB's are for immunogenic so can be newithout the need to blood typing. Also, the transferic HB will be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQUARE N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43 uphtidlahgsaajv 51
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                                                                                                                                                                                                                                                                                                                                                                          93 Zyminy?
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 72: Ok 13: Length 141;
Prod. No. 6: ke 06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Millamatiches
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                                                                                                                                                                                                                                                                                                                  useful as a
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Overy Match 100.0%; Secte 72; DB(14; Length 141; Best Local Similarity 100.0%; Ered. No. 6.4e-06; Matches 1: Conservative 0, Mismatches 0; Indels 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
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                                                                                                                                                                                                                                                                                                                    which when part of a haemoglobin (Hb) molecule, produces a mutant Hb with a lawer affinity for anytea that barmal Hb. The anytea affinity of the mutant Hb's being characterised by 150 of 30 Torr to 4 affinity and/or Htll coefficient of 2.5 l. The mutant Hb are useful for increasing oxygen delivery to tissue in particuts suffering from myocardial infarction, stroke, diabetes etc. They may also be used
                                                                                                                                                                                                                                                               myorardial infarction, stroke, diabetes etc. They may also be used to make tumours more susceptible to X ray treatment by combining with tree radicals and fixing the lesion in the cell. These Hb may
                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Column 7; Hpp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \frac{\log T}{M} Location/goalitiess Misc difference ^{94}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Globin: bigmodlobin; Hey attinity: expens delicery; stroke; myorardial interction; diabetes; tumour; X ray treatment; burns;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR30543 standard; protein; 14: AA
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                                                                                                                                                                                                       burns partiouts.
                                                                                                                                                                                                                                   be used replace the Hb in an entire bloodstream and tor treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The sequences given in AAR30527 33 represent mutant globin molecules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             increasing exygenation of tumour cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hacmoglobin with reduced oxygen attinity, useful e.g. for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New polymucleotide(s) coding for mutant globin chains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPT; 1993 017570/02.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Baserga SJ, Fischer JJ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-100T-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tree radical; lesion.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43 fphtdlshasagv 55
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                                                                                                                                               141 AA
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                        RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ц
                                                                                                                           Query Match
Best Local :
                                                                                                               Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                    (DONS/) DONSON J.
(GARGE/) GARGER S.J.
(GEAN/) GERTILE L.K.
(TURP/) TURPEN A.M.
(TURP/) TURPEN T.H.
                                                                                                                                                                                                   may be from tobacco mosaic, cucumber green mottle, cowped mosaic, brommosaic, broad bean mottle, rice necrosis, geminiviruses, tomato golden mosaic, Cassava latent and maize streak viruses.
                                                                                                                                                                                                                                           transit peptide. The coding sequence was inserted into recombinant plant viral nucleic acid which was then used to express a recombinant product (in this case human alpha-Hb) in a plant. The plant viral sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Recombinant products; commercial production; fermentation; biosynthesis; natural products; recontinant proteins;
AAR42631 standard; Protein; 141 AA
                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                         Example 4: Page 105; 30pp; English.
                                                                                                                                                                                                                                                                                                                                    e.g. antibody or IL-1 in a plant
                                                                                                                                                                                                                                                                                                                                                Recombinant plant viral nucleic acids - used to express
                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; Q376810
                                                                                                                                                                                                                                                                                                                                                                                        Mb1: 1634-026218/06
                                                                                                                                                                                                                                                                                                                                                                                                                              Dawson Wo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-AUG-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-FEB-1593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W09303161·A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chimaeric - Petunia sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chimaeric - Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 product expression, protein expression; expressed proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human alpha Haemoglobin and petunia EPSP synthase transit peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-JUN-1993 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR32988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR32999 Standards Protein: 141
                                                                                                                                                                                                                                                                                 This sequence is human alpha-haemoglobin with perunia BFSP synthase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (DAWS/) DAWSON W O.
                                                                                                                                                                                                                                                                                                                                                                                                                Turpenam,
                                                                                                                           Local Similarity
                                                             43 tpotdlshgsagv 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 43 fphtdlshgsagv 55
                                                                                      1 FPHFDLSHGSAOV 13
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                                                                          141 AA;
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                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                              Carger ST, Grantham GL,
                                                                                                               0,
                                                                                                                           Score 72; DB 14;
Pred No 6 3e-06;
                                                                                                               Mismatches
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                                                                                                               0;
                                                                                                                                       Length 141;
                                                                                                               Indels
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AAR55131
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                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C terminus. Alternatively, each chain may contain the M-terminus of
an alpha chain with the C terminus of a beta-chain, or all 4
chains can be of the beta type. The tetramers are characterised by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      associated together to reconstitute the alphal beta2 interface and incorporating hadm, are suitable as blood substitutes. Fref. the chimeric chains contain amino acids 1-73 of beta 4jobin at the N terminus and amino acids 69 onwards of alpha-ulobin at the
                                                                                                         Virus: recombination: plant virus: alpha trickesanthin; phenotype: alpha amylase; alpha haemoglobin; brome mosale virus; gemini virus;
                                                                                                                                                   Human alpha hacmoqlobin
                                                                                                                                                                                                           AAR55131;
                                                                                                                                                                                                                                      AAR55131 standard; Protein; 141 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                a lower oxygen affinity than natural haemowlobin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chimeric alpha beta globin molecules are claimed which, when
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tor transfusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New Synthetic tetrametric globin type Caygon transporter - with all chains identical and contq. haem, useful as blood substitute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (INRM ) INSERM INST NAT SANTE & RECH MEDICALE. (INMR ) PASIEUK MEKILUK SEKUMS & VACCINS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fusion protein
             31-MAY-1994
                                      US5316931-A
                                                                 Homo sapiens
                                                                                            rice beerools virus tobamovirus, gene expression, chinese cucumber
                                                                                                                                                                             12 JAN 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Fig 1; 41pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; AAQ49615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haemoglobin; alpha globin; beta globin; blood substitute;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Natural alpha-globin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-APR-1994 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI: 1993-320682/40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-MAR-1991;
                                                                                                                                                                                                                                                                                                          43 fphfdlshysagv 55
                                                                                                                                                                                                                                                                 10
                                                                                                                                                                                                                                                                                                                                     1 FPHFDLSHCSACV 13
                                                                                                                                                                                                                                                                                                                        Carrier reservable on sentimations chimeric gener
                                                                                                                                                                                                                                                                                                                                                                                                                                       141 AA;
                                                                                                                                                                                                                                                                                                                                                                   Conservat (ve
                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pagnier
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                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 72;
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د
                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                               Pred. No. 5.3e-06;
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                                                                                                                                                                                                                                                                                                                                                                                            DB 14; Length 141:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Guery Match 140.08; Seore 72; 1863; Geogth 141; Nest Local Similarity 100.08; Fred, No. 6.3e 06; Matches 14; Conservative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The alpha (aemodicbin coding sequence was fused to a sequence curvading the permits EESP synthase trust peptide and inserted into a recombinant plant virus which can then be used to infect plants for the production of non-halfye products (in this case binder alpha haemodicbin), other denes which may be inserted into the VIIIs are those which control a phenotypic trust, such as safe sterility, or sequences encoding anti-sense ENA which can be useful to present the expression of undesired phenotypic trusts. The recombinant virus is derived from a plus sense, single stranded
                                                                                                                                Adolts plas betas alobums genes regulatory regions promoters transacence peer bomans alphas bromoalodoms Hes orythrocytes transfers as hamasajis bytas dunt.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New recombinant plant viral nucleic acid—capable of systemic intection and stable expression of non-native nucleic acid in plant hear
            West (2507) A
                                                     \frac{\log_2}{M_{\rm T}} . Invaling/Qualifiers M_{\rm T} and difference (4)
                                                                                                     Homo sapares
                                                                                                                                                                                            Adait buman alpha globin E301
                                                                                                                                                                                                                          23 JUN 1994 (Tirist entry)
                                                                                                                                                                                                                                                                                       AAR41516 standard Protein: 141 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   virus or a demini virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N PEDBE ANDRESS !
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               virus selected from tobamovirus, brome mosic virus, rice necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 4. Medumns 67 58; 44pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THE PERSON AM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (RIOS ) BURNOR GENERICS CORP
                                                                                                                                                                                                                                                                                                                                                                 43 Tptt141.thus.aqc 50
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                                                                                                                                                                                                                                                                                                                                                                                              N. L. APASSCHIC P.CHRAG. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Turpen III.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bouse on L. Garger SJ,
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                                         Zimed Esor
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05:41617
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DRIONEL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        constructs contain the pid beta diobin promoter sequence operably linked to the human alpha of beta diobin decay. Pids containing these constructs express human haemodiobin (Hb) in their crythrecytes and are healthy, suffering no deleterious side effects as a result of heterologous Hb production. They can be used as an officient and
11 - JUN - 1993;
                                                           23 DEC 1593
                                                                                                                       W09325071·A
                                                                                                                                                                                                             Misc difference
                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                          transfusion; human/piq: hybrid Hb.
                                                                                                                                                                                                                                                                                                                                                                                                                   Adult: piq: beta; globin; gene; regulatory region; promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Adult human alpha globin F86Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23 JUN-1994 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR44517:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR44517 stundard; Protein; 141 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      economical source of human Hb that can be used for transfusion and other medical applications. Also, a homotopied hybrid Hb can be produced which exhibits a P50 that is higher than that of native human or pig Hb.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence. These sequences were used in the production of constructs which were used to produce the transferic plus of the invention. These
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the specification but were generated using the known alpha globin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequences given in \Delta AR44516 to represent mutant versions of the adult human alpha globin sequence. These sequences were not given in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-DEC-1993;
                                                                                                                                                                                                                                                                                                                                                                                       transdenic più, human, alpha: haemodiobin: Hb; erythrocyte:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 14: : 117pp: English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human alpha globin and huma beta globin linked to promoters
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Transgenic pigs which produce human haemoglobin—contg. DNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WP1; 1994-007075/01.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (DNXD-) DNX CORP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 FPHFDLSHGSAQV 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    141 AA;
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93Wo US05629
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Pinkert TA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                to the human alpha or beta globin genes. Pigs containing these constructs express buman bacmeglobin (Hb) in their erythrocytes and are healthy, suffering to deleterious side effects as a result of heterologous Hb production. They can be used as an efficient and economical source of human Hb that can be used for transfusion and other medical applications. Also, a human/rig hybrid Hb can be produced which exhibits a P50 that is higher than that of mative human or pig Hb.
                                                                                                                                                                                                                                                                            Adult; pig; beta; globin; gene; regulatory region; promoter; transferic pig; human; alpha; haemoglobin; Hb; erythrocyte; transfusicu; buman/pig. Bybrid Hb
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              08-DEC-1992;
15-MAR-1993;
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                                                                                                                                                                                                                                                                                                                                                                                23 JUN 1994
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08-DEC-1992;
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930S-0030897.
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Pinkert CA, Sharma A,
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Best Local Similarity
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08-DEC-1992;
15-MAR-1993;
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   Holtzman SH,
Parsons CT,
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Parsons CT, Pilder SH,
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Pilder SH,
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Pinkert CA, Sharma A,
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A, Swanson
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transferie pag: baman; alpha: haemodlobin; Ho; erythrocyte;
transfusiod: baman/pid: hybrid Hb;
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heteroiogous Hb production. They can be used as an efficient and
economical source of human Hb that can be used for transfusion and other
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is hidden than that of native buman or piq Hb.
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buman alpha globin and huma beta alobin linked to promoters
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## SUMMAR:ES

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US-09-005-546-16	ITS-08-484-341-8	115-08-381-175A-7		US-08-316-424A-2	US:08 619 708A:5	-535-	482	US:08:627 173 16	US-08-432-071B-2	US-08-484-686B-69	US-08-443-890-27	US-08 443 890 2f	US-08-443-890-17	US-08-396-866-1		88:98 240 712 26	HS-08 240 712-17	US-08-184-237-8	US-08-170-095H-1	US-07-923-692C-8	US-09-005-546-2		98-08 627 172-2	-546-	US:08 535 882A 1	US:08:627 173 1	1 D	
Sequence 16, Appl	Sequence 8, Appli	7	Sequence 1, Appli	Sequence 2, Appli		Sequence 16, Appl	Sequence 8, Appli	16	2, 7	69,	27,	, 5	17,	1,	Sequence 27, Appl	26,	17,	œ,	Sequence 1, Appli	Sequence B. Appli	ر ر	13	د ۽	1,	Sequence 1, Appli	Sequence 1, Appli	bescription	

Sequence 5, Appl	US-08-316-424A-5	Ξ 3	14	95.8	69	45
Sequence 19, Appi	US-08-535-882A-19	1 2	14	95.8	69	44
Sequence 19, A	US 08 627 173 19	:-	د.	95.8	. <u></u>	4.4
Sequence 2, Ap	US-08-619-708A-2	1 2	1.2	98.6	71	4.2
Sequence 18, A	81 765 657-66-30	4-	ξη - 1	100.0	13	-
Sequence 11, A	US-09-269-592-11	 	t.	100.0	i.	40
Sequence 1. App	US 99 269 592 4	3 4	30	100.0	72	3.4
Sequence 4, Apr	US-08-550-715-3	2 1	 خد	100.0	72	3
Sequence 2. App	US 08 550 715 2	iJ L	<u>۔</u> ث	100.0	-4 1-3	37
Sequence 27, Appl	PCT-US92-09752-27	T.	.14.	100.0	72	36
Sequence 26, Ap	PCT 0892 09752 26	in	د ، حند	100.0	ر،	UT UT
Sequence 17, Ap	PCT 0892-99752-17	in	د ،	100.0	ر. د ا	ω 
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Sequence 25, A	US 09 058 562 25	٠	د د دند	100.0	-7	يىن دا
Sequence 24, A	US 09 058 562 24	 	, 25	100.0	72	31
Sequence 17, A	US:09:058 562 17	٠.		100.0	- a t 2	30
Sequence 70, A	DS-08-453-160B-70	4	د محد	100.0	ر. ا.،	S.
Sequence 1, App.	08-09-230-603-1		,_	100.0	72	82

## ALIGNMENTS

// Sequence 1, Application US/08627173
// Patent No. 5861483

GENERAL INFORMATION:

RESULT 1 US-08-627-173-1

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MGLECULE TYPE. peptide us 08 627-173-1
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TELECOMMUNICATION INFORMATION:
TELEFAX: (703) 816-4000
TELEFAX: (703) 816-4100
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: TSYKLOVA, LELLA.
APPLICANT: WOLFE, STEPHEN D.
TITTLE OF INVENTION IMPERITOR STEPFEOF
TITTLE OF INVENTION ISSESS THEFEOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR AIFLICATION DATA:
AFPLICATION NUMBER: US 08,535,880
FILING DATE: 28-SEP-1995
APPORNEY/AFRT HEYBRATION:
NAME: PYRNE, THOMAS E
REGISTRATION NUMBER: 32,205
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
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                                                                                                                                                                                 TYPE: amino acid STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                              TOPOLOGY:
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                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                          13 amino acids
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Qury Match 100.0%, Soure 72, CB 2; Length 13; Rest Local Similarity 100.0%; Prod. No. 4.1e 07, Matches 13; Conservative 0; Mismatches 0 Indels

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Fatesct N.J. 6Jec/82
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Application USZOR COMPA
Patent No. 5949491
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TELLEAX: (70.6) 816-4100
TNFORMATION FOR SEQ (10 NO: 1):
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AppleMaten Number, UE/DB/CEC PROS.
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1. Standards Toolog Fred No. 4.26 of Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: WOLPE, STEPHEN D.
ITITLE OF INVENTION: INHIBITOR OF STEM CELL PROLIFERATION AND
TITLE OF INVENTION: USES THEREOF
                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER US 08/
FILING DATE: 28 SEP-1995
ATTORNEY/ASEN TANGMATION:
NAME: BYENE, THOMAS E.
REGISTEALION NUMBER: 42.20
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                        ZIP: 22201-4714
COMPUTER REALIABLE FORM:
COMPUTER: Flooppy disk
COMPUTER: IMM be compatible
OPERATING SYSTEM: PC to S/MS bos
SOFTWARE: Patentin Release #1.0, Version #1
                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: HYRNE, THOMAS E. RECISINATION NUMBER: 82,205 RECISINATION NUMBER: 82,205 REPERINATION: INFORMATION:
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ATTOKNITY/AGENT INFORMATION:
NAME: BYRNE, THOMAS E.
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COMPUTER: IBM FC compatible

OPERATING SYSTEM: PC DOSYMS DOS

SOFTWARE: Patentla Reloase #1.0, Version #1.00
CHERENT APPLICATION DATA:
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                APPLICATION NUMBER.
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                     REFERENCE/OFFICE NUMBER
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                                                                                                                                                               CLASSIFICATION: 514
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                                                                               Query Match 100.9%, Score 72, LB 2, Best Local Similarity 100.0%; Pred. No. 4.8e-07;
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                                                                   Matches 13; Conservative
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                                                                                                                                                                                                                                                                           TELEFAX: (703) 816-4100 INFORMATION FOR SEQ ID NO: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIJM TYPE: Ploppy disk
COMPJIER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURKEN[ APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: INHIBITOR OF STEM CELL PROLIFERATION AND TITLE OF INVENTION: USES THEREOF NUMBER OF SEQUENCES: 27
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TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: BYRNE, THOMAS E.
REGISTRATION NUMBER: 32,
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APPLICANT:
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STRANDEDNESS:
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                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                          APPLICANT: Turpen, Ihomas H. APPLICANT: Turpen, Ann Myens A. APPLICANT: Garger, Stephen J. APPLICANT: Grill, Laurence K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide
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                                                      CORRESPONDENCE ADDRESS:
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ATTORNEY/AGENT INFORMATION:
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                                                                        TITLE OF INVENTION: RECOMBINANT PLANT VIRAL NUCLEIC ACIDS NUMBER OF SEQUENCES: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid STRANDEDNESS:
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OPERATING SYSTEM: PC-DOS/MS-DOS
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COMPUTER: I.
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STREET: 2001 Ferry Building CITY: San Francisco
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                                                                                                                                                                                     Donson, Jon
Dawson, William O.
Grantham, George L.
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2. Jequence 1. Applicant can USZURTZURSB
2. Patent. No. 555 (254)
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. Sequence 8. Application US/08184237
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Best Local s
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SPEKATING SYSTEM: System 7.0.1

SOFTWAKE: MICROSOIT WORD 5.0.1

GERKEHT APPLICATION DATA: MICROSOFT MAPPLICATION DATA: MICROSOFT MAPPLICATION HAMBER. MICROSOFT OF THE CHASCOFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: Decomber 20, 103 class FigArion: 530 ATTORNEY ACTEN INCOMPTON: 430 ATTORNEY ACTEN 5563254aK, Honry 5363254aK, Honry 5362254AK, Ho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SECTIONS: 1:
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                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPRIER: HM PC comparible
GPEKATING SYSTEM. BY LocS/MS Dos
SOFTWARE: Patent in Release #1.5, Version #1.75
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Domson, Jon
APPLICANT: Dawson, William O.
APPLICANT: Grantham, George t.
APPLICANT: Forper, Thomas H.
APPLICANT: Forper, Thomas H.
APPLICANT: Forper, Ann Myors
APPLICANT: Garact, Stephen J.
APPLICANT: Garact, Stephen J.
APPLICANT: GARACT STEPHEN J.
                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy
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                                                                                                                                                                                                        PRIOR APPLICATION DATA:
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Local Similarity 100,0%, Fred, No. 5e 05;
thes 13; conservative of Mismatches 0; Indels
                                                                                                                       APPLICATION NUMBER: US 3
FILING DATE: 41 JUL 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 2001 Forty E
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE:
FILING DATE:
                                                                                                                                                                                                                                                   CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/184 237
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STREET: 2001 Forty Building
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PRIOR APPLICATION DATA:

APPLICATION NUMBER:

US 310,881

FILING DATE: 16-JAN-1991

APPLICATION NUMBER: US 641,617

FILING DATE:

PRIOR APPLICATION DATA:

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RESUL: ...
US-08-240-712-17
: Sequence .7, Application US/08240712
- Datent No. 5599907
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INFORMATION FOR SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                              APPLICANT: ANDERSON, DAVID C.
APPLICANT: MATHEWS, ANTONY JAMES
APPLICANT: SIETIER, GARY L.
TILLE OF INVENTION: PRODUCTION AND USE OF MUTTIMERIC
                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentic Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                        COMPUTER READABLE FORM:
COMPUTER: 18M PC comp
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TELEPHONE: 415-433-4150
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                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: PROCHOTION:
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LENGTH: 141 amino acids
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                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES
                                                                                                                                                                                                                       STREET:
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Local Similarity 109.0%; Pred. No. 5e-95;
hes 13; Conservative 0; Mismatches
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REGISTRATION NUMBER: 28,957
REFERENCE/1900KET NUMBER: BIOG-20121 USA
CLASSIFICATION: 0
                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                  STATE:
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                                  APPLICATION NUMBER:
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               09-MAY-1994
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                                  21.2 Ott. 30: 511
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; Sequence 26, Application US/08240712
; Patent No. 5599907
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                                                                     TELEPAX: 202-737-3528
TELEX: 248633
INFORMATION FOR SEQ ID NO:
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                                                                                            REFERENCE/WOOKET NUMBER: 28,005
REFERENCE/WOOKET NUMBER: AN
TELECOMMUNICATION INFORMATION:
TELEPHAX: 202-737-3528
TELEPH 202-737-3528
                                                                                                                                                                                                  FILING DATE: 13-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: COOPER, IVER P
                                                                                                                                                                                                                                                                         CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
APPLICATION NUMBER - PS.
                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: ANDERSON, DAVID C.
APPLICANT: MATHEWS, ANTONY JAMES
APPLICANT: STETLER, GARY L.
TITLE OF INVENTION: PRODUCTION AND USE OF MULTIMERIC
TITLE OF INVENTION: HEMOGLOBINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: poptide
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ATTORNEY/AGENT INFORMATION:
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                                                       SEQUENCE CHARACTERISTICS:
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ENTE: 141 amino acid
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TELEFAX: LC
TEX: 248633
                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                 NAME: COOPER, IVER PREGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Washington
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STRANDEDNESS: single
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                                141 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                        Floppy disk
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   single
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    Mismatches

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100,0%; Secret 72; 18:1;

Nest Local Simularity 100,0%; Fred, No. 6-06;

Matches (3) Conservative 0; Mismatches
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APPLITANT MATHEMS, ANY D. JAMES
APPLITANT STPILER, CARY L.
HILLE OF INVENTION. PRODUCTION AND USE OF MULTIMERIC TILLE OF INVENTION. HEMOGLOBURS
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US 08 443-890-17
: Sequence 17, Application US/08443890
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APPLICANT: MATHEMS, AFFORM JAMES
APPLICANT: STETLER, GARY L.
TITLE OF INVENTION: FROMDITION AND USE OF MULJIMERIC
TITLE OF INVENTION: HEMOGLOBINS
                                       COMPUTER REALIABLE FORM:
                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Browdy and Noimark
STREET: 419 Soventh Street, N.W., Suite 400
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FILING DATE: May 17, 1993
ATTORETY/AGINI (NESMATION:
NAME: NO. 55/11244K, HOLLY P.
REGIGIRALION NUMBER: (200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: Apple Macintosh operative system: System 5.0.1 SOFTWARE: Microsoft Word 5.0a. CUERENT APPLICATION DATA: APPLICATION DATA: APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Nadai, Kiyoshi
TUTLE OF INVENTION: Blood Substitutes
NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                  NUMBER OF SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPRENCE/DOCKET NUMBER: HOTIMAN REPRENCE/DOCKET NUMBER: 2A/~ NO TELEPOMMUN (CATION INPORMATION):
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 4.50 inch. 1.4 Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Hoffman, Stephen J
APPLICANT: Nagai, Kiyoshi
MEDIUM TYPE: Floppy disk
computer: IBM PC compatible
operationS SYSTEM: PC-DoS/MS Des
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43 FPHEDLSHGSAQV 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Topology: Ite
grand
                                                                                                                                               CITY: Washington
                                                                                                          COUNTRY
                                                                                                                              STATE:
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TELEFAX: 303-444-30[3
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5797 Central Avenue
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US-08-443-890-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 100.0%: Score 72; UE 1; Length 141; Best Local Similarity 100.0%; Prod. No. 60-06; Matches 13; Conservative 0; Mismatches 0; Indels
FILING DATE: 09-MAY-1994
APPLICATION NUMBER: PCT/US92/09752
FILING DATE: 14-MAY-1993
ATTORNEY/AGENI INFORMATION:
NAME: COOPER, IVER P
REGISTRATION NUMBER: 28,005
PHFFFRENCE/DOCKET NUMBER: ANDERSON-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
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                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ITM TC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: ANDERSON, DAVID C.
APPLICANT: MAIHEWS, ANTONY JAMES
APPLICANT: STETLER, GARY L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-628-5197
TELEFAX: 202-777-2528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: PCT/US92/09752
FILING DATE: 14-MAY-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                     PRICE APPLICATION DATA:
APPLICATION NUMBER: 1
FILING DATE: 09-MAY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS
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PRIOR APPLICATION NUMBER: US 08/240,712
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APPLICATION NUMBER: US
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CLASSIFICATION: 530
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                                                                                                                                                                                                 APPLICATION NUMBER - FILING DATE: 31-MAY
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REGISTRATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                              USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRODUCTION AND USE OF MULTIMERIC HEMOGLOBINS
                                                                                                                                       US 08/240,712
                                                                                                                                                                                                                 TIS,708,7443,890
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Search completed: Jane 21, 2001, 10.25.09 Job time: 258 sec
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                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 26:
                                                                                                                                                                                                                                                                                              MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: 202-7
TELEX: 248633
                                                                                                43 FPHFDLSHGSAOV 55
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                                                                                                                                                                                                                                                                                                                                     LENGTH. 141 amino acids
TYPE: amino acid
STRANDEDNESS: single
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Pred. Not is the number of results predicted by object to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result	<b>2</b>	Match Vuery	Por at t	Ē	1	
1	72	100.0	140	<u>ا</u> د	HABOKA	hemoglobin alpha c
2	72	100.0	141	_	HACZP	
	ų ki	100.0	141		HAGO	alpha
4	75	100 0	141	_	HAMOP	alpha
5	7.2	100.0	141	-	HAMQJ	lobin alpha
5	72	100.0	141	_	HAMOC	lobin alpha
7	7.2	100.0	141	_	HAMQIP	
x	7.2		141	_	HAMQ2P	
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10	7.2	100.0	141		HACJB	
11	72	100.0	141		HAMOA	
12	7 :	190.0	141	۴	HAMQF	
13	72	100.0	141	_	HAMQB	
14	7.2	100.0	141	_	HALEN	hemoglobin alpha c
15	72	100.0	141	_	HAI.RS	
16	72	100.0	141		HAGC	
17	7.2	100.0	141	_	HAOEE	
18	7.2	100.0	141		HAPD	
19	72	100.0	141	_	HAJUA	
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21	72	100.0	141	۱.	HATX	
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R;Goodman, M.; Braunitzer, G.; Stangl, A.; Schrank, B.
Nature 303, 546-548, 1983
A;Title: Evidence on human origins from hacmoglobins of African apes.
A;Reference number: A98303; MUID:83219265
A;Accession: C93303
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C.Specius: Tragelaphus strepsiceros (greater kudu)
C.Specius: Tragelaphus strepsiceros (greater kudu)
C.Bale: 04-100-1986 #swquonce_revision 04-100-1986 #roxt_-bange 03-Mgr-2000)
C.Accession: AC2293
R.Rodewald, K.: Wiesner, H.: Braunitzer, G.
Biol. Chem. Hoppe-Seyler 366, 395-402, 1985
A.Title: Primary structure of the beneglobins from the greater Kudu antelope (Iragela A; Accession: AC2293
A.Title: Primary structure of the beneglobins from the greater Kudu antelope (Iragela A; Accession: AC2293
A.; Molecule type: protein
A.Residues: 1-140 <a href="https://www.accession.com/rotein">https://www.accession: AC2293
A.; Molecule type: protein
A.Residues: 1-140 <a href="https://www.accession.com/rotein-chem-protein">https://www.accession.com/rotein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-protein-chem-
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F:50/Binding site. ox, bc. (bis) (distal axial ligand) #status predicted
F:87/Binding site. heme from (His) (proximal axial rigand) #status predicted
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A:Residues: 1-141 <0000
A:Residues: 1-141 <0000
C:Superfamily: globin: globin bomology
C:Keywords. blood; chromoprotein: erythrocyte; heme. iron; metalloprotein: oxygen car
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C:Species: Pan paniscus (pyqmy chimpanzee, bonobo)
C:Date: 30-Jun-1993 #sequence_revision 30-Jun-1993 #text_change 03-Mar-2000
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Quary Match 100.0%, Score 72, DB 1: Best Local Similarity 100.0%; Fred. No. 9.26-06; Matches 13; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Accession: C93303
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CoSupertamily: stobils ylebin bandony. CoSupertamily: trons metalloprotein; oxygen carrie
E298/Kunding sites oxygen (Bis) (distal ixiai ligand) #status predicted F20//Kunding sites beme from (Bis) (proximal axial ligand) #status predicted
                                                                                                                                                              A:Molecule type: protein
A:Residues: 1 141 -MAI -
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Cobator on May Pres #Separare revision 28 May 1985 #Sext chande of Mar 2009
CoArcession: Entropy Abid46, Abid46, Aug249
Possendono M., Braundier, St. Standie A., Schrank, N.
                                                                                                                                                                                                                              A: Accessi on Accession
                                                                                                                                                                                                                                                        A; Reference number: Auggeor MOTD: 74115166
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hemoglobin alpha chain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C:Keywords: blood: chromoprotein: crythrocyte: beme: from: metalloprotein: oxygen carrie
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Asketesenee number: Assaus Millians (1925)
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258/Pumling Sylves (Sylven (Bis) (distal ixiai iians) #status predicted
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:Regidues: L.A. (BOY)
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;Residues: 1 141 - 200 -
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                                                                                                                                                                                                                                                                                  J. Pept. Protein Res. 5, 423-425, 1973. The Dept. Protein Res. 5, 423-425, 1973.
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benontable atthat totain ply tailed massque (Species: Massara memorstrina (ply tailed massque)
Cobate: 4 ther 1900 #sequence revision 4 (see 1990 #text_change 04 Mar 2000 Cotacession: 806814
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C:Shbortemian
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B:Matsuda, G.: Maita, T., Ota, H., Shaya, A., Bakashima, Y., Eshii, U., Bakashima,
Int. J. Pept. Protein Res. 5, 405 418 (1973)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ReMatsuch, G.: Maita, I.: Watunabo, P.: Araya, A.: Morokuma, K.: Goodman, M.: Erychod Hoppe Seyler's Z. Physiol. Chem. 854, 1153–1155, 1628.
A.:Ille: The amino acid sequences of the alpha and beta polypeptide chains of adult h A:Reference number: A02252: MUID:75040050
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Cispecies: Maraca fuscata fuscata (Japanese macaque)
Cibate. 31 Dec 1990 #sequence revision 31 Dec 1990 #text_change 03 Mar 2000
                                                                                                                                                 HAMOIT
                                                                                                                                                                                    RESULT
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Capace: 28-May 1986 #sequence_revision 28 May 1986 #fext_change 03-Mar 2000
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C:Roywords: blowd; chromoprotoin; oxythrweyto: hemo; iran; motallogrotoin; oxygon car
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A: Residues: 1 141 < MAI>
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                                                                                                                                                                                                                                                                                                                                                                                                                                      poery Match 100.7%; Score 72; DB 1; best boal Similarity 100.0%; Brod. No. 8.2e ob-Matches 13; Conservative 0; Mismatches 0.
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Best Local Similarity
Matches 13: Conserv
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Best Local Similarity 100.0%;
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100.0%; Pred. No. 8.2e no;
varive n: Mismitches n:
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Prod. No. 8.20 Ob;
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160 0%; Score 72; DB 1; Length 141

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A:Molecule type: protein
A:Residues: 1-141 cMaly
A:Residues: 1-141 cMaly
C:Superfamily: qlobin; globin homology
C:Keywords: blood: chromoprotein; erythrocyte, heme, iros, metallopiotein; ex
E)2 141/Domain: qlobin homology cGLB>
E)2 141/Domain: qlobin homology cGLB>
E)58/Binding site: oxyden (His) (distal axial ligand) #status predicted
E)87/Binding site: heme iros (His) (proximal axial ligand) #status predicted
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A: Recession: $07670
A: Recession: $07670
A: Molecule type: protein
A: Residues: 1-141 < MAH>
C: Superiamily: globin homology
C: Superiamily: globin; globin homology
C: Superiamily: globin chromoprotein; crythrocyte; heme; heterotetramer. iron, metalloprotein; 2:141/20mmain: globin homology <GLB>
F: 2:141/20mmain: globin homology <GLB>
F: 58,7410disq $110. Sarden (His) (distal axial ligand) #status predicted
F: 87,7410disq $110. Sarden (His) (proximul axial ligand) #status predicted
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R:Mateuda, G. Maira T. Suruguma Y. Gercapeti, M. Ota, Y. Araya, A., Giedman, M.,
Hoppe Seyler's E. Ciysiol. Chem. 354, 1517-1525, 1573
A:Title: Studies on the primary structures of alpha and beta polypeptide chains of adult A:Reference senser, A02253, MGID.75059126
A:Accession: A02253
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C:Superfamily: globin; globin homology
C:Keywords: blood; chromoportein; erythrocyte; heme; heterotetramer; iron; metalloprote
E:2 441, Pownie. - globin homology COLB>
E:58/Binding site: oxygen (His) (distal axial ligand) #status predicted
E:87/Binding site: home iron (His) (proximal axial ligand) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                               hemoglobin alpha chain - black-handed spider monkey)
C:Species: Atoles geoffroyi (black-handed spider monkey)
C:Date: 28-May-1986 #sequence_revision 28 May-1986 #text_change 03-Mar-2000
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C:Accession: S07670
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C:Species: Macaca nemestrina (pig-tailed macaque)
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A; Residues: 1-141 < MAH>
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rch. Biochem. Biophys. 196, 64-72, 1979
;Title: Hemoglobia 2012. than concerns
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Pred. Nc. 8.2e-06;
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Pred. No. 8.2e 96;
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R.Matsuda, G. Maita, T.: Watanale, B.: Alaya, A.: Merekuma, K.: Ota, Y.: Geodman, M. Hoppe Seyler's Z. Flysiol. Chem. 354, 1513-1516, 1973

A.Title: The amine acid sequences of the alpha and beta polypeptide chains of adult h. A. Reference number: A02254; MUID:75059125

A. Accession: A02254

A. Molecule type: protein
A. Molecule type: protein
A. Residues: 1-141 cMATE

C. Superfamily: globin; globin homology
C. Seywords: blood: observation acythropyte: bene: from: metallepretein: exygen car
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F:2-141/Domain: globin bomology <GLB>
F:58/Hinding site. exygen (His) (distal axial ligand) #status predicted
F:87/Hinding site. hence from (His) (proximal axial ligand) #status predicted
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Cyaccession: S06513
Cyaccession
C; Accession:
R; Lin. K.D.;
                                                     hemoglobin alpha chain - brown-headed tamarin
CySpecies: Sequinus fuscicollis (brown-headed tamarin, saddle-backed tamarin)
CyDate: 28 May 1986 #sequence_revision 28 Ma, 1986 #trat_, hange 93 Mar-2000
CyAccession: A02255
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C.Species. Cebus aprila (brown capuchin, black capped capuchin)
C.Dato: 28 May 1986 #Sequence_revision 28-May 1985 #t.ct_change 63 Mar 2000
C.Accession: A02254
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A:Molecule type: protein
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C:Superlamily: globin: globin homology
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100.0%; Pred. No. 8.2e-06;
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C3Supertamily: alchin: alchin momology
C3Keywords: blood: chromoprotein: crythrocyte: heme: heterotetramer: iron; metalloprote
Fiz.141/Lomann: alohin homology ollk-
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E150/Bundiot after oxygen (Bis) (distal axial ligand) #status predicted
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Algorous rous Avolso: MUDIc/Vol1459.
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Err 14 [Zemanna | Advis Emphalogy (distal axial factor) #status predicted
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PisSuperfamily: disbin: disbin bomology
PisKeywords: blood; chromoprofein; crythrocytes hemes iron; metallogrofein; oxyden carrie
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Maita, f.; Goodman, M.; Matsuda, G.
Biochom, 84, 77, 88, 1978
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Int. J. Pept. Protein Res. 5, 419-421, 1973
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Totalows Pred No. 2186-06:
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Matches 18: Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | HRA, ALCAA | STANDARD; | PG : | PG 
                      Aschauet H., Wiesner H., Rraunitzer S.: "Intrinsic oxygen affinity: the primary structure of a ruminantia membrodatic methodine in betaNA: of a perofa, the Nerthern elk (Alees alees).":
Hoppe-Seyler's Z. Physiol. Chem. 45:142 (1840(1984).
FURCTION: INVENTED IN CXYEEN INANSFERI FROM THE DURC TO THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Studies on yak hemeglobin (Fes grammiens, Bevidae): structural basis for high intrinsic oxygen affinity?"
Riol, Chem. Hoppe Soyler (46:56-66): 60(1985)
-1 FUNCTION: INVOLVED IN CXYGEN TRANSPERI FROM THE 1390 TO THE VARBOUS PERI PHERAL TISSUES.
-1 SCHENIT. TELBAMES OF TWO ACHBA CHAIRS ARD FWO BETA CHAINS.
-1 ILSSUE SPECIFICITY: RED BLOOD CELLS.
-1 SIMILARITY: RELONGS TO THE GLOBIN FAMBLY.
                                                                                                                                                                                                                                                                                                                                                                                                                   Alces alces alces (European moose) (FTA).
Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Eutoleostomi;
Mammalia: Eutheria: Cetartiodaetvia: Ruminantia: Decora: Cervoidea:
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21 JUL 1986 (BOL 01) Last seq
01 of T-200 (Red. 40) Last don
HEMOGLOGN ALPHA 2 CHAIN
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                                                                                                                                                                                                                                                                                                                                                                                         Cervidae: odocoileinae: Alces
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Mammalia; Entheria; Cetartiodaetyla; Ruminantia; Pecora; Rovoidea;
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                                                                                                                                                                                                                                           MEDILINE 85078042; PubMed-6510898
                                                                                                                                                                                                                                                                                    SEQUENCE
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VARIOUS PERIPHERAL TISSIES
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100.0%; Pred. No. 2.8e-06;
rtive 0; Midmatches o;
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                                                                                                                                         Best Local
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1- SUBUNII: TETRAMER OF TWO BALHA CHAINS AND TWO BETA CHAINS.

1- TISSUE SPECIFICITY: RED BLOOD CELLS.

1- SIMILARITY, BELONGS TO THE GLOBIN FAMILY.

PTR: A29702: A29722.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WHeinschmidt T., Koop B.F., Braunitzer G.;
"The primary structure of the pallid bat (Antrozous pallidus, Chiroptera) hemoglobin.";
Biol. Chem. Hoppe-Seyler 368:1197-1202(1987).
-i- FUNCTION: INVOLVED IN OXYGEN TRANSPORT FROM THE LUNG TO THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JAN-1940 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
01-OCT-2600 (Rel. 40, fast annotation update)
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Bukaryota: Metazoa, Chardata, Craviata, Vertebrata: Euteleustomi
                                                                                                                                                                                                                                                          SECHENCE
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PRINTS: PR00612; ALPHAHAEM.
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43 EPHFDLSHGSAQV 55
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                                                   1 FPHFDLSHGSAQV 13
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SHOW (HEME DISTRIL LIGAND).

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NCI: 141 AA; 15115 MW: MSAD20030 GERFERA CRO64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-JHL-1986 (Rel. 01, Greated)
21-JHL 1986 (Rel. 01, Last sequence update)
01-OCI-2000 (Rel. 40, Last annotation update)
HEMOGLOBIN ALPHA CHAIN.
Aleles geoffroyi (Black handed spider monkey), and
                                                                                                                                           Maimadlia: Butheria: Cetartiodactyla: Rumainantia: Percora: Bovoidea;
                                                                                                                                                                                                                                  01-MAR-1989 (Rel. 10, Created)
01-MAR-1989 (Rel. 10, Last sequence update)
01-GCT-2000 (Rel. 40, Last annotation update)
HEMOGLOBIN ALPHA-1 AND ALPHA-11 CHAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS: PRO0612: ALPHAHAEM.

PROSTTE: PS01033: GLOBIN: 1.

PROSTTE: PS01033: GLOBIN: 1.

Hame: Gygen transport: Respiratory protein: Erythrocyte.

Heme: Gygen transport: Respiratory protein: Erythrocyte.

Brown (HEME DISTAL LIGAND).

METAL 87 87 IRON (HEME PROXIMAL LIGAND).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR: A02253; HAMKP.
PIR: B28865; B28865.
BSSP: P01922; TEDB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPECIES S.oedipus;
MEDLINE-84212383; PabMcd-6427202;
Maita T., Hayashida M., Matsuda G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPECIES-A.geotiroyi;
MEDLINE-75059126; PubMed-4215720;
Matsuda G., Maita T., Suzuyama Y., Sete
Goodman M., Barnabas J., Prychodko W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saquinus oedipus (Cotton-top tamarin).
Eukaryota: Metacca: Chordata: Cramiata: Vertebrata: Eutelcostomi:
Mammalia: Euthoria: Primates: Platyrrhimi, Cebilac: Atelinac: At
                                                                                Bovidae; Bovinae; Bison.
NCBI_TaxID-9902;
                                                                                                                                                                                                                                                                                                                                                        P09423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Studies on the primary structures of alpha and beta polypoptide chains of adult hemoglobin of the spider monkey (Ateles geoffroyi).": Hoppe Seyler's Z. Physiol. Chem. 354.1517 1528(1973).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P01927;
MEDLINE 86296178.
                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                 HHA_BISBO
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InterPro; IPR002338;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -1- TISSUE SPECIFICITY: RED BLOOD CELLS.
-1- SIMILARITY: RELOWES TO THE GLOBIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -1- SUBUNIT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Primary structures of adult hemoglobins of silvery Callithrix argentatus, and cotton headed tamarin, S. J. Biochem. 95:805-813(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43 FPHFDLSHGSAOV 55
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: INVOLVED IN OXYGEN TRANSPORT FROM THE LUNG TO THE VARIOUS PERIPHERAL TISSUES.
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                                                                                                                                                                                                                                                                                                                                                                                 STANDARD:
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PubMed 3741621;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 72; DB 1; 100.0%; Pred. No. 2.8e-06;
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                                                                                                                                                                        PRINIS: PRODUCT: ALPHAHAEM.
PROSTIE: PROJUCE: ALPHAHAEM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hopper Seyler's 7. Physical, Chem. 65:70 041(1984).
FUNCTion: INV-CAMBILL EXYSER TRANSPORTERAM THE DAMA TECTH
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Laithant Luaron R.J. Brannitzer G.:
"Annies and sequence of gayal behood ofth (Bos garins frontalis)
Bootshe).":
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"Intrinsic oxygen ittinity of hemoglobrus: the hemoglobin of bisons
(Bison bonasos, Novidae).";
SECTION F
                                                                                                                               Hemes express transports Respiratory proteins Erythrocytes
                                                                                                                                                                                                                                                                                   Planc PE080425 globins
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VARTOUS PERTPHERAL LISSUES.
LISSUE STECH STITY, RED BLOOD CELLS.

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HISSUE STEPTITITY: REPORT OF CHAIN. AND TWO BETA THAINS HISSUE STEPTITITY: REPORT OF CHAIN.
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141 AA
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100.0%; Pred. No.
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                                   TRON (HEME DECENDAL LIGAND).
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FROM (HEME PROXIMAL LIBAND).

C. + B (IN ALPHA I).
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(49.04.) 6. 98(1)まだはごかっています。
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                                                                                                                                                   Matches
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        METAL
        58
        16-W (HEMB) DISTAL LISTAND)

        METAL
        87
        87
        16-W (HEMB) PROXIMAL LISTAND)

        SEQUENCE
        141-AA;
        1505x MW;
        401000AAx(114085AA 0R004)

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PRINTS: PROUB12; ALPHAHAEM.
PROSITE: PSO10-83; GLOBIN; 1.
Heme: Oxyaen transport, Respiratory protein; Erythrocyto;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *! DATABASE: NAME-Worthington enzyme manual: KWW "11"p.15"www.w.ethiogra. 15%-6. PIR: A02289: HARO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schroeder W.A., Shelton J.K., Shelton J.B., Robberson B., Babin D.R.; "Amino acid sequence of the alpha chain of bovine fetal hemoglobin."; "Arch. Riochem. Hiophys. 120:1-14(1967).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21:JUL-1986 (Rel. 01, Created)
21:JUL-1986 (Rel. 01, Last sequence p
01-oct 2000 (Rel. 40, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro: IPR000971;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIJINE 68001840;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3D-Structure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro: IPR002338;
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                                                                                                                                                                                       Local Similarity
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                                                                     1 FPHFDLSHGSAQV 13
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SIMILARITY: BELONGS TO THE GLOBIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94016570; PubMed 8411160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Metazoas
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                                                                                                                                          190.07: Sourc 72: DR 1: 100.08: Frod. No. 2.8e-06: utilve u: Mismarches u:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata: Cianiata; Vertebrata; Esteleostomi;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Line to distribution ("Caracas and "Caracas and "Caracas
                                                                                                                                                                                                                            Length [4];
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RESULT 1

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Best Local :
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                                                                                                                                                             MEDITAR SOLUTION (A STAND) A., Wiester H.; Hraunitzer G., Schrenk H., Stand) A., Wiester H.; Respiration at high altitudes, phosphate-protein interaction: the secuence of hemodicbins from guinea pig and dromodary.";
                                                                                                                                                                                                                                                                                      Camelus dromedarius (Dromedary) (Arabian camel), and Camelus bactrianus (Bactrian camel), Camelus bactrianus (Bactrian camel), Euthorata; Chordata; Craniata; Vertebrata; Enteleostomi; Mammalia; Euthoria; Cetarticdactyla, Tylòpoda, Camelidae, Camelus NCBI_TaxID=9838, 9837;
Rraunitzer G., Schrank B., Stangl A., Wiesber H.; "Respiration at high all tindes, phosphate-protein interaction: sequence of the hemoglobins of the hamster (Mesocricetus aurea the camel (Camelus terus, Camelidae).", I Them Son Pak 2:1-7(1980)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Callithrix argentata (Black-tailed marmosot).
Pukaryota, Matacsa; Chordata, Crasiata, Vertebrata, Buteleostomi,
Mammalia; Butheria: Primates: Platyrrhini; Callitrichidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NuV-1999 (Ref. 16, Created)
01-NUV-1990 (Ref. 16, Last sequence update)
01-0CT-2000 (Ref. 46, Last annotation update)
HEMOGLOBIN ALPHA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                     21-JUL-1986 (Rel. 01, Last sequence update) 01-00T-2000 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Callithrix argentatus, and cotton-headed tamarin, Sagninus oedipus
J. Biochem. 45 805 817(1984)
                                                                                                  SPECIES C.bactrianus.
                                                                                                                                                    sequence of hemoglobins from quinea pig and dromodars Hoppe-Seyler's Z. Physiol. Chem. 360:1941-1946(1979)
                                                                                                                                                                                                                       MEDILINE 80114125; PubMed=527943;
                                                                                                                                                                                                                                   SPECIES C.dromedarius
                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                          HEMOGLOBIN ALPHA CHAIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                              P01974;
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PROSITE; PS01033; GLOBIN; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VARIOUS PERIPHERAL TISSUES.
-1- SUBUNIT: TETRAMER OF TWO ALPHA CHAINS AND TWO BETA CHAINS.
-1- TISSUE, SPECIFICITY: RED BLOOP CELLS.
-1- SIMILARITY- REFORCS TO THE GLOBIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Maita f., Hayashida M., Matsuda G.:
"Primary structures of adult hemoglobius of silvery marmoset
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDITINE-84212383; PubMed-6427202
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cxygen transport; Respiratory protein; Erythrocyte.
58 58 Ikon (HEME DISTAL LICAND).
87 87 IRON (HEME PROXIMAL LICAND).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
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Pred No
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2 86.06;
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Best Local
                                                                                                                                                                                                                                                   MEDLINE-681133; PubMod 5658544; Buisman T.H.J.; Brandt G., Wilson J.B.; Brisman T.H.J.; Brandt G., Wilson J.B.; "The Structure of aboat hedmodiobins, ii. Structural studies of the alpha chains of the kemoglobins A and B.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
HEMOGLOBIN ALPHA-1 AND ALPHA-2 CHAINS.
                                                         MEDLINE:67209244; PubMed-6033754;
                                                                                                                                   Wilson J.H., Wrightstone R.N., Hoisman T.H.J.;
"Nummerlobin alpha chaib deplication in Parkery sleep. Amestrages
Lervia, Pallas, 1777.";
                                                                                                                                                                           SPECIES*A.lervia;
MEDLIME-70163:88; PubMcd-5439729;
                                                                                                                                                                                                                                                                                                                                                            Schon E.A., Wernke S.M., Lingrel J.H.;
"Gene conversion of two functions! qual alpha dickin genes only minimal planking sequences.";
J. Biol Chem. 257:6825-6835(1982).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebiata; Euteleostomi;
Mammalia, Eutheria, C-tartiodaetyla; Kuminantia; Pecora; Bovoldea
Bovidae; Caprinae; Capra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Heme: Oxygen transport; Respiratory protein; Erythiocyte.
METAL 58 58 IRON (HEME DISTAL LIGAND).
METAL 87 87 IRON (HEME PROXIMAL LIGAND)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIR; B91685; HACMA.
HSSP; P01965; 2PGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -1- SUBUNIT: TETRAMER OF TWO ALPHA CHAINS AND TWO BETA CHAINS
-1- TISSUE SPECIFICITY: RED BLOOD CPITS.
-1- SIMILARITY: BELONGS TO THE GLOBIN FAMILY.
            Bicchem.
                         "A partial amino acid sequence for sheep harmoplogin A.";
                                          Beale D.,
                                                                    SPECIES-Sheep; STRAIN SOAY BREED, AND CLAN BREED
                                                                                                                    Nature 226:354-355(1970).
                                                                                                                                  lervia,
                                                                                                                                                                                                                                                                                                                  SPECIES=C.hircus;
                                                                                                                                                                                                                                                                                                                                 PARTIAL SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIINE-82213818; PubMed 6282825;
                                                                                                                                                                                                                                                                                                                                                                                                                                          SPECIES=C.hircus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ALPHA ) AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9925, 9899,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Capra hirous (Guat), Ammotragus lervia (Barbary sheep) (Aoudad), and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P01970;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HBA_CAPH1
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PRINTS; PR00612; ALPHAHAEM.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biol. Chem. Hoppe Seyler 367:14/-152(1986)
PIR: A25477: A25477.
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Bukaryota: Metazoa: Chorduta: Craniata: Vertebrata: Enteleostomi:
Mammalia: Eutheria: Primates: Platyrchini: Cebidae: Cebinae: Cebus
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01-JUN-1994 (Ref. 29, 1
HEMOGLOBIN ALPHA CHAIN.
SECHENCE
                                                                                                               METAL 58 58 IKON (HEME DIST
                                                                                                                                                                                                            PROSIDE: PS01033; GLOBIN; 1
                                                                                                                                                                                                                                                                            PRINTS: PROPELLS: ALPHAHAEM
                                                                                                                                                                                                                                                                                                                           Ptam: PE00042; globin;
                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; PO1922; IFDH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tanioka Y., Araya A., Maita T., Matsuda G.:
"Primary structure of adult hemoglobin of white throated capuchin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIINE 86187258; PubMed 1964444
Tanioka Y., Araya A., Maita T., E
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01-APR-1988 (Ref. 07, Last Seq
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P07421;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The amino acid sequences of the alpha and beta polypeptide chains of adult beweelobia of the capachia workey (Tebus apelia)."; Hopperseyler's Z. Physiol. Chem. C4:1514-1516(1974).
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Eukaryota: Metazoa: Chordata: Staniata: Vertebrata: Enteleostomi:
Mammalia: Eutheria: Primates: Flatyrrhini: Cebidae: Cebinae: Cebus
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21-JUL 1986 (Rel. DL, Created)
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Goodman M., Barnahas J., Prychedko W.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCHI_LaxID 9515;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SECUENCE
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hos 13; Conservative
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So THE ACTUMENT ERISTAL LICAND.

BY 87 IN OUR PROTEINS ALL LICAND.

ENCE 141 AA: 15124 MW; SIRONIZONAEGAANI SPORA;
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141 AA: 15124 MW;
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29, bast annotation update)
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TRON (HEME DISTAL LIGAND).

TRON (HEME PROXIMAL LIGAND).

'CODO'S LOF'S DAZIAC CROSS;
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

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Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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Maximum Match 100%
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Perfect score:
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                           A_Geneson_OKOT *

1. $21158_9 | Julius_Jonesses_Genesos_H_AA1980_FAT *

2. $21158_9 | Julius_Jonesses_Genesos_H_AA1980_FAT *

3. $2158_9 | Julius_Jonesses_Genesos_H_AA1981_FAT *

4. $21158_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1 *

5. $2158_9 | Gudata_Jonesses_Genesos_H_AA1985_DAT *

5. $2158_9 | Gudata_Jonesses_Genesos_H_AA1985_DAT *

7. $22 | Gudata_Jonesses_Genesos_H_AA1985_DAT *

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12. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_DAT *

13. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1 *

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21. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1 *

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23. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1 *

24. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1 *

25. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1981_AA1 *

26. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1981_AA1 *

27. $21058_9 | Gudata_Jonesses_Genesos_H_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_AA1981_A
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NO.	Score	Query Match	Owery Matck Length DB		ID	Description
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<b>8</b> 5	76.5	88.3	3.5	17	AAK97346	Peptide fraument o
w	72	80.0	13	<u>-</u>	AAW30330	Peptide 43-55 with
4	72	80.0	16	20	AAY41983	Rheumatoid arthrit
S	i,	0 08	و.	19	AAW66276	Circularly permute
6	72	80.0	141	 	AAR29600	Mutant human alpha
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Crocodile alpha-ql	iew exygen affinit	HLA Mutuwa, Hacette	Human adult alpha	DNA sequence of th	DNA sequence of the	[(des-Val)-alpha-(	Protein sequence o	(Bes-Val)-alpha-(G	Human haemoglobin	Human hemoglobin a		Human alpha-hemogl		Human alpha-hasmog	Alpha chain of hum	Human haemoglobin	Human haemoglobin	Human alpha-haemoa	Human alpha-bacmod	Recombinant wild t	Haemoglobin alpha	Haemoglobin alpha	Haemoglobin alpha	Native human haemo	Haemoglobin alpha	Haemoqlobin alpha	The alpha chain of	n alpha	Adult human alpha-	Adult human alpha-	human	Adult human alpha-	Adult human alpha-

## ALIGNMENTS

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Best Towal .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           harmoplebin: INPROL: Stem cell proliferation: B lymphorytes; K celis: chemoticripy: cancer: harmotopeictic cells: marrow: blood; myelopic liferative disease: autoimmune dicease; adjuvant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              approximate the leep tennel in the native lipha chain. The 2 end systeine residues can also be joined by a partian bridge. The psytide is used to inhibit stem cell proliferation, particularly during the mammal is exposed to an adent, e.g. an antivital, that damages or destroys stem cells. It can also be used to differential protection of normal stem cells, but
                                                                        THE SECTION OF
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                                SEP 1994
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Zlabel Disulphide bond
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100.0%; Pred. No. 1 35 09;
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Matches 15; conserv
                                                                                                                                                                                                                                                             W09736922 Al
                                                                                                                                                                                                                                                                                                                                                                                                           INPROL; stem cell: inhibition: stimulation: proliteration: myoglobin; alpha chain: hacmoglobin; radiotherapy: chemotherapy: cancer; differential protection; stem cell hypoproliteration; aplastic anaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           haematopoietic siem cella ca vivo (particularly bone marrow) pertipheral blood or cord blood cells); for the ex vivo expansion of haemotopootic cells when used in combination with a stimulatory cytokine. INPEN, can also be used to treat myetoproliferative or autolimente discase. INPEN, is also useful as an adjuvant in the vaccination of mammals and can be used in content as maniferation. INPEN, can also be used in one thorapy. This periode framement of buman haemodlobin A corresponds to amino acids 4 4 4 9 of the mature protein given in AAMOPTST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Exampositions (INFROL) comprising a palyperide selected from the hacemed obtin alpha, bota, gamma, delta, epsiton or zeta chains and a carrier may be used to inhibit stem cell proliferation. INPROL can also be used for stimulating the greath of B cells and can be used
Tsyrlova L. Wolpe SD:
                                                (PRON ) PRO NEURON INC
                                                                                                  03-APR-1996;
                                                                                                                                                        03 APR 1397:
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                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                     stem cell exhaustion
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      with ratio or chemotherapy to treat cancer in mammals by differentially protecting normal stem cells and not cancer cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 11: Page 64: 101pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20 APR 1998 (first entry)
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   structure of the alpha chain present in bound hackoplobin, and the present poptide identified as a region which is structurally different from myophobin in 3-diamosional space. The peptide is used to inhibit stem cell proliferation, particularly during radiotherapy or chemotherapy of cancer, but more generally wherever a mammal is expose chemotherapy of cancer, but more generally wherever a mammal is expose
                                                                                                                                                                                                                                                                                                                                                         rheumato'd arthritis diagnostic teature: ERPI: symovial fluid; rheumatoid arthritis diagnostic protein isoform; screening; expression reference protein isoform; prognosis.
   Diagnosis of human rhoumateid arthritis by two-dimensional electrophoresis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09-DEC-1999 (first entry)
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electrophoresis
                                                       WPI; 1999-571871/48
                                                                                           Parekh Rb. Patel TP.
                                                                                                                             (OXFO-) "XFORD GLYCOSCIENCES UK LID
                                                                                                                                                                                                           15-MAR-1999;
                                                                                                                                                                                                                                               23-SEP-1999
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Дb УŽ

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chosen feature or features in the sample indicates the presence or alseance of PA in the subject. The merthod can also be used in clinical studies for testing drugs for therapy of PA, for production of RA-diagnostic protein isolating (EFIs), and for production of antibodies to EFIs. The EA diagnostic feature (EALP) proteins can be used to identify compounds that promote or inhibit their activity, which are then used as FA drugs. Nurfect acid encoding RADFs can be used in gene thorapy protected. NAV41814 to AAV4100 represent MI peptides, AAV42301 to
                                                       AAY42103 represent expression reference protein isoform peptides and AAZ23066 to AAZ23068 represent decemerate probes for KFIs, which are all used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                 of RA; and (c) comparing the abundance of each chosen feature in the sample with the abundance of that chosen feature in serum or plasma from one or more persons without RA, where the relative abundance of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     comprises: (a) analysing a sample of serum or plasma and optionally synovial fluid by two dimensional electrophoresis, to generate a two-dimensional array of features; (b) identifying at least one chosen feature whose relative abundance contents with the presence of absence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              diagnosis and prognosis of RA in a subject or for monitoring the effect of an anti-RA drug or therapy administered to a subject. The method
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         two dimensional array of features. The method can be used for screening
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blood cells or oxygen delivery

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New Macmoglobin permutein with non-naturally occurring termini useful to tthe treatment of any condition where therapy includes red

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The permitting have increased stability and expression during E.
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Best Local:
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                                                                                                                                                      mutation was then added to the sequence. The sequence was mutated polymerase chain reaction. The mutation introduced produced polymerisation intramolecular crosslink. This alobin molecule has
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      inise_difference 75
                                  designed for expression of pure, modified human Hb's in the
                                                           oxygen exchange characteristics sufficiently close to natural haemoglobin (Bb) to enable its use in a cell free blood substitute. The mutaled gene encoding this protein can be used in a construct.
                                                                                                                                                                                                                                                           This sequence was not disclosed in the specification. The alpha dlobin done sequence was obtained from Swiss.prof. no. AAPO1922.
                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 13; 42pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mutation was then added to the sequence. The sequence was mutated by polymerase chain reaction. The mutation introduced produced a totramer intramelecular erosslink. This adobin molecule has oxygen exchange characteristics sufficiently close to natural background to enable its use in a cell tree blood substitute. The mutated dense encoding this protein can be used in a construct designed for expression of pure, modified bound Bb's in the crythrocytes of non-
erythrocytes of non-human transpense animals
                                                                                                                                                                                                                                                                                                                                                                                                                                   cell-tree blood substitute
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Transgenic, crosslinked polymeri: boman baemoslobin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N PSDB; AAO26426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   McCune SL. fownes FM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-DEC-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Polymerisation intramolecular crosslink; oxygen exchange, crythrocytes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mutant buman alpha globin 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR29508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR29508 standard; Protein; 141 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tree of such viruses as HIV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20 DEC-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15 JAN 1993 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human transgenic animals.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.3 tphtdishqsaqv %5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80.0%; Scote 72; DB 13; Length 141; 100.0%; Fred. No. 36-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  î
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The Hb's are non
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Query Match 80.0
Best Local Similarity 190
Matches 150 Conservation
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                                                                                                                             which when part of a harmoglobin (Hb) molecule, produces a mutant Hb with a lower affinity for oxygen than normal Hb. The oxygen affinity of the mutant Hb's being characterised by P50 of 30 Torr to 3 atmos, and/or Hill coefficient of 2.5-1. The mutant Hb are useful for increasing oxygen delivery to tissue in patients suffering from may strill later than Struke, diabetes the They may also be used to make tumours more susceptible to X ray theatment by combining with free radicals and fixing the lasion in the cuil. These Hb may
                                                                                                                                                                                                                                                  The sequences given in AAR30527-33 represent mutant globin molecules
                                                                                                                                                                                                                                                                              Disclosure: Column 7; 11pp; English.
                                                                                                                                                                                                                                                                                                                                                                      Mb1: 1883-012820/02
                                                                                                                                                                                                                                                                                                                                                                                                  Baserga S.I,
                                                                                                                                                                                                                                                                                                                                                                                                                             (UYYA ) UNIV YALE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Globia, harmoglobin, Hb. afficity, oxygos, delicery, stroke; myocardial infarction, diabetes, tumbur, X-ray treatment; burns;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Titusville alpha globin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-MAY-1993 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunogenic so can be used without the need for blood typing. Also, the transgenic Hb will be free of such viruses as HIV.
                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                     New polymodeoxide(s) coding for mutant globin chains - form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-DEC-1392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    free radical; lesion.
                                                                                                    burns patients.
                                                                                                                                                                                                                                                                                                          increasing oxygenation of tumout cells
                                                                                                                                                                                                                                                                                                                      haemoglobic with reduced oxygen afflyity, useful e.g. for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43 fphtdlshusagv 55
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                                                                                                                used replace the Hb in an entire bloodstream and for treating
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                                                                        141 AA;
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          80.0%; Score 72; DB 14; Length 141; 100.0%; Pred. No. Re-05;
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AAR42631

AAR42631 standard; Protein; 141 AA

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                                                  Query Match
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(GRAN/) GRANTHAM G L.
(GRIL/) GRILLE L K.
(TURP/) TURPEN A M.
                                                                                                                                                                                                                                                                                                                                                                                                                 This sequence is human alpha hacomoglobin with petunia EPSP synthase transal poptide. The coding acquence was inscrited into recombinant plant viral nucleic acid which was then used to express a recombinant product (in this case human alpha-Hb) in a plant. The plant viral sequence may be from tobacco mosaic, our umber green mostile, cowers mosaic, brome posaic, broad bean mostile, rice necrosis, geminiminuses, tomato dolden
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                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                               mosaic, Cassava latent and maize streak viruses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 4; Page 105; Ropp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Recombinant plant viral nucleic acids - e.g. antibody or 11.-1 in a plant
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                                                              80.0%; Score 72;
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DB 14;
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                                                              Length 141;
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Begin Taman J
                                                                                                                                          Vitas: recombination; plant virus: alpha trichosanthin; phenotype:
alpha am;base, alpha haemodiddin; brome mosare virus; pemini virus;
rice nectoris virus: tobamovirus; gene expression; chinese encumber.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chimeric alpha beta dobin molecules are claimed which, when associated together to reconstitute the alpha beta? interface and incorporation because are saitable as blend substitutes. Fret, the chimeric chains contain amino acids 1.7% of beta dobin at the N terminos and amino acids 69 onwards of alpha-qlobin at the C terminos. Alternatively, each chains of a beta chain, or all 4 chains on the of the beta type. The tetraines are characterised by
                                                                                   House supress.
                                                                                                                                                                                                                                                                    Burren cipho haorestrabin
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                            A Theorem State
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The Competition
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                                                                                                                                                                                                                                                                                      RESULT 17
                                                                                                                                                                                                                                                                                                                                                                                         Query Match 80.0%;
Best Local Similarity 100.0%;
Matches 13; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              embedding the petunia EFSP synthase trasit poptide and inserted into a recombinant plant virus which can then be used to inteet plants for the production of non-native products (in this case human alpha-haemodobin). Other genes which may be inserted into the virus are those which control a phenotypic trait, such as male sterility, or sequences encoding anti-sense RAA which can be useful to present the expression of undesired phenotypic traits. The recombinant virus is derived from a plus sense, single stranded girus scleeted from tebunacilies have a constraint traits.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26 FEB
15 JUL
17 FEB
05 MAY
22 OCT
               Misordifference 30
                                                                      Homo sapiens
                                                                                                               Adult; pla; beta; globin; deno; rephratory region; promoter; transgenie pla; buman; ajpha; hewwelchin; HB; erythrocyte;
                                                                                                    transfusion; human/piq; hybrid Ho
                                                                                                                                                              Adult human alpha qlobin E30T.
                                                                                                                                                                                            23:JUN-1994 (tirst entry)
                                                                                                                                                                                                                            AAR44535;
                                                                                                                                                                                                                                                      AAR44516 standard; Protein; 141 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            intection and stable expression of man native nucleic acid in
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Turpen IH;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         heterologous Hb production. They can be used as an efficient and economical Source of human Hb that can be used for transfusion and other medical applications. Also, a human/piq hybrid Hb can be produced which exhibits a P^{\rm SO} that is higher than that of native human or piq Hb.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence. These sequences were used in the production of constructs which were used to produce the transporte pigs of the Invention. These constructs contain the pig beta globin promoter sequence operably linked to the human alpha or beta globin genes. Pigs containing these constructs express human harmoglobin (Hb) in their originary as and are healthy, suffering state effects as a result of betterpies that effects as a result of healthy, suffering the feets as a result of the production. They can be used as an efficient and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Adult; p:g; beta; globin; gene, regulatory region; promoter; transgen:c pig; human, alpha, haemoglobin; Hb; erythrocyte;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The sequences given in AAR44516 20 regrescut mutant versions of the adult human alpha globin sequence. These sequences were not given in the specification but were generated using the known alpha globin
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                                             23-DEC-1993
                                                                                                                                                                                                                                                                                                                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR44517;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1994-007075/01.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (DNXD-) DNX CORP.
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                                                                                                                                                          WO9325071-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                transtor on, homon,pig, holtid Hb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Parsons CT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-JUN-1992:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43 tph.tdlshqsaqv 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 FPHFDLSHGSAQV 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; 117pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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Pilder SH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9208-0987890
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                                                                                                                                                                                                                                                                                                                     36
                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                           /label- F36Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10 C.... 140.002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kumar R, Lo
Pinkert CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Logan JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sharma A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ÷)5;
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A. Swanson ME;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..
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    12-JUN-1992;
08-DEC-1992;
                                                                                                                                    11-JUN-1993;
                                                                                                                                                                                                                      23-DEC-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transiusion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adult: pig: beta, globin: gene; regulatory region: promoter: transgenic pig: human; alpha; haemoglobin: Hb: erythrocyte;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Adult human alpha-globin L106F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR44518 standard; Protein; 141 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequence. These sequences were used in the production of constructs which were used to produce the transpence plus of the invention. These constructs continues the pig heta globin promoter sequence operably linked to the link of the product of th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequences given in AAK44516-20 represent mutant versions of the adult human alpha globin sequence. These sequences were not given in the specification but were generated using the known alpha globin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 14; ; 117pp; English
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Parsons CT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23 JUN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR44518;
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15-MAR-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43 fphfdlshqsagv 55
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 FPHFDLSHGSAOV 14
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Pilder SH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human/pig; hybrid Hb.
    920S:0897648
920S-0987890
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100.0%; Fred. No.
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Pinkert CA, Sharma
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Rest Local Similarity 160.0%;
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transpenie post boman; alpha: bremodisting NBs erythrocytes
transfession human,pres hybrid NBs.
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## SUMMARIES

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2000 (TrEMBLIEL 15, List sequence update)
2001 (TrEMBLIEL 15, List single file)
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                                                                                                                                                                                                                                                                                                Principle of the
                                                                                                                                                                                                                                                                                                                         The owner of
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                                                                                                                                   147 AA. PULLY MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 e: Bemee: exymen transport: Respiratory protein 141 AA: 19195 MW; 7120H70494704AID @R064;
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                                                                                                                                                               Oxygen Arabsports Responsitory protein (3) Killerk.
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                      Tour, take the part No. 18 (2) Ob. 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100,0%; Score 7.2; DR 6;
100,0%; Prod. Ne. 1,96 bf;
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  Masmat shes
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                                                  138 4: Length 142;
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Rest Local Similarity
                 Sucep alphardlobin denc sequences: implications for their concerted evolution and for the down regulation of the 3' denes.";
J. Mol. Evol. 40: 459 (1995).
                                                                                                                                                                                                                                                    028744;
01:NOV 1996 (FEEMBLECL 0), Created)
01:NOV 1996 (FEEMBLECL 0), tast sequence update)
01:MAR-2001 (FEEMBLECL 16, Last innotation update)
                                                                                                                                                                                Mammalia: Eutheria: Cetartiodaetyla: Rominantia: Pecera: Bovoidoa
Bovidae: Caprinae: cvis.
                                                                                                                                                                                                                 Eukaryota: Metazoa: Chordata: Cianiata: Vertebrata: Euteleostomi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ristaldi M.S., Gasnia S., Rando A., Vestri R.: "Shopp alpha diobin dene sequences: implications for their concerted evolution and for the 40(1945).

J. MOL. Evol. 40:349—453 (1945).

I. SIMILARIY: TO GLORIN FAMILY.

SIMILARIY: TO ALPHA HARMOSCORIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                028743:
01 NOV 1996 (TERMBLIGE, 01, Created)
01 NOV 1996 (TERMBLIGE, 01, Last sequence apdate)
01-MAR 2001 (TERMBLIGE, 16, Last amoutation update
ALPHA GLORIN CHAIN.
*! SIMILARITY: TO GLOBIN FAMILY.
                                                                                                                    TISSUE BLOOD;
                                                                                                                                    SECUENCE FROM N.A.
                                                                                                                                                                  NCBI_TaxID 9940;
                                                                                                                                                                                                                                  ovis aries (Sheep)
                                                                                                                                                                                                                                                                                                                                    U28744
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SEQUENCE 1
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PKINTS; PRO0512; ALPHAHAEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL: X70215; CAA49752.1;
HSSP: Poly66; THDA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE 95287398; PubMod 7769611;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia: Entheria; Cetartiodaetyla - Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Chamiata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro: IPR002338;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro: IPR@00971;
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                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
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42 AA; 15202 MW; 0787E84DEE78448 CRC64;
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Pred. No. 6,9e-ph
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                                                                                                                                                                                                                                                                                                                                    142 AA
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Best Locai
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Bost Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                             Kistaldi M.S., Casula S., Rando A., Vestri k.;
"Sheep alpha globin gene sequences: implications for their concerted
evolution and for the down-regulation of the 3' genes.";
J. Mol. Evol. 40-349-353(1905)
-!- SIMILARITY: TO GLOBIN FAMILY.
-!- SIMILARITY: TO ALCHA HARMOGIORIN FAMILY.
                                       01-NGV-1996 (TYEMRITE)
01-NGV-1996 (TYEMBLIE)
01-MAR-2001 (TYEMBLIE)
BII ALPHA-2 GLOBIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NAV-1396 (TREMBLEC). 01, Created)
01-NAV-1396 (TREMBLEC). 01 LAST seq
01-NAV-2003 (TREMBLEC). 15, Last and
ALPHA GIDBIN CHAIN.
                                                                                            Q28383;
                                                                                                                                                                                                                                                                                                                                  InterPro; IPRO02338; ...
Pfam; PF00042; qlobin; 1.
PPINTS: PP00612; ALPHAHAEM,
                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X70214; CAA49
HSSP: P01966: 1HDA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro: IPR002338; -. Pfam: PFC0042; globin: 1
Bukaryota: Metazoa: Chordata: Craniala: Vertebrata: Euteleostomi:
Mammalia: Eutheria: Perissodactyla: Equidae: Equus.
                          Equus caballus (Horse)
                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                          PROSITE:
                                                                                                                                                                                                                                                                                                                                                                             InterPro: IPR000971;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-FLOOD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bovidac: Caprinae; Ovis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota: Metazoa: Chordata: Craniata; Vertebrata: Euteleostomi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro:
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                                                                                                                                                                                                                            Local Similarity 100
                                                                                                                                                                         44 FPHEDLSHCSAQV 56
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                                                                                                                                                                                                    1 FPHEDLSHGSAQV 13
                                                                                                                                                                                                                                                                                                                                                                                                      X70214; CAA49751.1;
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142 AA; 15178 MW; 073CF84DEB387033 CRC64;
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                                                                                                          PRELIMINARY,
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                                                                                                                                                                                                                                         Score 72; ER 6;
Pred. No. 6.9e-06:
                                                                                                       PKT,
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Pred No. 6 Ge-06
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                                                                Query Match
Best Local :
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                              Q9XSN3;
01-NOV-1999 (TrEMBLrel. 12, Created)
21 NOV-1999 (TrEMBLrel. 12, Last scapence update)
01-MAR-2001 (TrEMBLrel. 15, Last annotation update)
                                                                                                                                                                                                               ВSSP; P01958; 118E.
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDILINE 99865770; PubMcd 9847419; Oakenfull E.A., Clegy J.B.;
                                                                                                                                                                                                                                        J. Mol. Evol. 47:772-783(1998).
-!- SIMICARITY: TO GLOBIN FAMILY.
-! SIMICARITY: TO ALPHA HARMOCLOBIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                            Equus burchelli (Plains zebra) (Equus quagna).
Eukaryota: Metazou: Chordata, Craniata, Vertebrata
Mammalia; Eutheria: Perissodactyla: Equidae: Equus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE: PS01033: GLOPIN: 1.
Erythrosyte, Bear, Cxyder transport: Respiratory protein.
Exputno: 142 AA, 19229 MW. GRABSHONGSCHOEF CR064:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Clegg J.B.;
Submitted (FT
                                                                                                                   Erythrocyte: Heme, Gxyden transport, Respiratory protein. SEQUENCE 142 AA. 15229 MW. 579F83ER036717EG CB-64;
                                                                                                                                             PRINTS; PRO0612; ALPHAHAEM.
PROSITE: PS01033; GLOBIN; ]
                                                                                                                                                                        Ptam; PF00042; globin; i
                                                                                                                                                                                                                                                                     "Fhylogenetic relationships within the demas Egous and the evolution of alpha and theta globin genes.":
J. Mol. Evol. 47:772-783(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ENSKED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mol. Biol. Evol. 4:492-503(1987).
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                                                                                                                                                                                                                                                                                                                                                                NCB1_TaxID=9790;
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                                                                                                                                                                                        InterPro: IPR002338:
                                                                                                                                                                                                   InterPro; IPRU00971;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- SIMILARITY: TO GLOBIN FAMILY.
!- SIMILARITY: TO ALPHA HAEMOGLOBIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cleqq J.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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                                                                Local Similarity
44 FPHFDLSHGSAOV 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44 FPHFDLSHGSAQV 56
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                         1 FPHFDLSHGSAQV 13
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                                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1663)
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                                                              Score 72; DB 6; Pred. Wo. 6.9e-00;
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                                                                                                 IntelEro: Teknogeor, I
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1. Mol. 1972 | 184 (1980).

2. SIMILARITY: 1972 | 184 (1980).

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6. SIMILARITY: 1974 | 184 (1980).
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of MAK 2004 (TEMMSTEEL 12, Last Segmence update)
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LE ALCHAZI G.: "ARCHAGOS".]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHXSER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PTOSSER
                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.0%; Matches 13; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local :
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                                                                                QUXSEB;
21 EAC 1905 (Tribudical, 12, Greened)
01-NOV-1999 (Tribudical, 12, Last sequence update)
01-MAR-2001 (Tribudical, 16, Last annotation update)
ALPHA 2 HEMOGLOSIN.
                 Bukaryota: Metazoa: Ghordata: Staniata: Vertebrata: Enteleostomi:
Mammadia: Entheria: Perissodaety.a: Equidae: Equos.
                                                            Equus hemionus (kulan).
NCBI_Tax:D 9794:
                                                                                                                                                                                       RESKHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Erythocyte, Heme, oxygen transport; Respiratory protein. 
SEQUENCE 142 AA: 15229 MW; 948846115C16173 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro: IPR002388;
Ptam: PP00042; diobin:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL: AF129141: AAB93467.1: ...
EMBL: AF129140: AAB93467.1: .JOTNED
HSSP: p01958: THEE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARONTOL E.A., CTORELLER BANCE.

1. SIMILARITY TO ALGER EARLY STRUKTIVE DATABASES.

1. SIMILARITY TO ALGER EARLY STRUKTIVE DATABASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bauns caballus przewalskii (Frewalski's horse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALPHA I HEMOCLOBIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0]-NOV-1999 (FERMRIPEL 12, Created)
0]-NOV-1999 (TERMRIPEL 12, Last sequence update)
0]-MAR-2001 (TERMRIPEL 16, Last annotation apdate)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHXXEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Erythrocyte: Home: exyden transport: Respiratory protein SECHENCE 142 AA; [517] MW; ell/4P6E285cP48F eRec4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS: PRODE12; ALPHAHAEM PRESITE: PSE183 (: GLOBIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of alpha and theta globin genes.
J. Mol. Evol. 47:772:783(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Phylodenetic relationships within the denus Equas and the evolution of alpha and theta globin genes.":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE 99068770; PubMed 984741;
Gakenfull E.A., Clegg J.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID 9798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia: Entheria: Perissodactyla: Equidae: Equus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bukaryota; Metaroa; Chordata; Cruniata; Vertebrata; Enteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O9XSE9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro: IPB000971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECUENCE FROM N.A
                                                                                                                                                                                                                                                                                             44 FPHFDLSHGSAOV 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4.4 FERREIGERGS 5.5
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                                                                                                                                                                                                                                                                                                                                    1 FPHFDLSHGSACV 14
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                                                                                                                                                                                     PRELIMINARY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Store 72; DR 6; 100.0%; Bred. No. 6.9e 06;
                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                           O; Mismatches

    missiatehes

                                                                                                                                                                                                                                                                                                                                                                                               Score 72; DB 6;
Pred. No. 6.90 06;
                                                                                                                                                                                       134.1
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SEQUENCE FROM N.A

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$6.50 \text{ $1.00 \text{ $2.00 \text{ $3.00 \text{ $4.00 \text{ $4.00
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Best Local Similarity
Matches 13, Conserv
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                                                                                                                                                                                                                                                                               HSSP; P01958; 11BE.
Interpro: 1PR000971;
Interpro: 1PR002338;
                                                                                                                                                                                                                                                                                                                                                                                            Submitted (FEB-1999) to the EMBL/GenHank/DDBJ databases.
-!- SIMILARITY: TO GLOGIN FAMILY.
-!- SIMILARITY: TO ALPHA HARMOGLOBIN FAMILY.
EMBL: AF129137; AAB93465.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O9TVA4:

01-MAY-2000 (TrEMBLrel, 13, Greated)

01-MAY-2000 (TrEMBLrel, 13, Last sequence update)

01-MAR-2001 (TrEMBLrel, 16, Last agnotation update)

ALPHA I HEMOGLOBIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro) IPRO02338; -.
Prinn: PRO0042; 410bin; 1.
PRINTS; PRO0612; ALPHAHAEM.
PROSITE: PRO1023; GLOBIN; 1.
ETYLTROCYTO; Heme: Oxygeno Cloudsport;
SEQUENCE 142 AA: 15211 MW; 82A45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cakenfull F.A. Cledd J.B.;
Sobmittel (FER 1973) to the EMRL/SecRopk/EDFT databases
-!- SIMILARITY: IO GLOBIN FAMILY.
                                                                                                                                                                                                                             Pfam: PF(0042: globin: )
PPINTS; PPO0612; ALPHAHAEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oakentuli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of alpha and theta globin genes.";
J. Mol. Evcl. 47:772-783(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oakenfull E.A., Clegg J.B.; "Phylogenetic relationships within the genus Equus and the evolution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Enkaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
Mammalia: Eutheria: Perissodaetyla: Equidae: Equus:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Equus hemionus (kulan)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9TVA4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-99(65770; PubMed=9847419;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_Fax:D=9794;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oakenfull E.A., Clegg J.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE: 99065770; PubMed: 9847419;
                                                                                                                                       Erythrocyte: Heme: Oxygen transport; Respiratory protein SEQUENCE 142 AA; 15206 MW; 82B837BC14C1F1B2 CRC54,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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                                                                                                                                                                                                  PROSITE: PS01033; GLOBIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro: [PROOO971: -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>1</u>3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 FPH-DISHUSAQV 13
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                                                                                                                                                                                                                                                                                                                                                                        AF129136; AAB93465.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF129139; AAB93466.1;
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     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Clegg J.B.;
                          100.0%; Score 72; EB 6.
100.0%; Pred. No. 6.9e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 0%;
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Pred. No. 6 96-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sport, Sespiratory protein
82A45DF09B049B24 CRC64;
     Mismat, has
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142 AA
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0. Lude),
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                                                        Length 142,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
     12
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RESULT
Q9TTS1
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                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                 Q9TTS1
           globin genes.";
%abmitted (MAY 1999) to the EMBQJ3+abackgTEBT databases
                                                                                                                       Hos taurus (Bovine).
Dukaryota, Metassa, Chordata, Crasiata, Vertebiat
Mammalfa, Euthoria, Cetartlodaetyla, Ruminantia,
Hovidae: Boyinae: Bos.
                                                                                                                                                                                                       01-MAY-2000 (TrEMBLrel. 13, last sequence update) 01-MAR-2001 (TrEMBLrel. 16, last annotation update)
                                                                                                                                                                                                                                                     QUITS1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oakenfull E.A., Clegg J.B.; Submitted (FER 1999) F. the IMP.; FIR SIMILARITY: TO GLOHIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Phylogenetic relationships within the genus Equis and the evolution of alpha and theta globin genes.";
J. Mol. Evol. 47:772-784(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel 13, 61-MAY-2000 (TrEMBLrel 13, 01-MAR-2001 (TrEMBLrel 16, ALPHA 2 HEMOGLOBIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ç9TVA3;
                                                   Rullo R., Pieragostini E., Vincenti D., Campanile C., Di Luccia A.
                                                                   STRAIN-PODOLIAN;
                                                                                                             NCBI_TaxID 9913;
                                                                                                                                                                                 ALPHA GLOBIN.
                                                                                                                                                                                              HEMOGLOBIN ALPHA CHAIN
                                                                                                                                                                                                                                     01-MAY-2000 (TrEMBLrel, 13, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Erythrocyte; Heme; Oxyjes transport; kespiratory protein. 
SEQUENCE 142 AA; 15190 MW; 8E7837HC0801D8B5 Ckc54:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ptam; PF00042; globin; 1.
PKINTS; PR00612; ALPHAHAEM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP; P01958; 11BE.
InterPro: 1PR000971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -1- SIMILARITY: TO ALPHA HAEMOGLOBIN FAMILY. EMBL: AF129135; AAB93452.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MHDLINE=99065770; PubMod=9847419;
Oakenfull E.A., Clegg J.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eguus burchelli (Plains zebra) (Eguus guagga)
Eukaryota, Metazoa; Chordata, Oraniata, Vertel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C9TVA3
                                      "Nucleotide sequence of Podolian caltic (Bos Faurus primigenius) alpha
                                                                                 SEQUENCE PROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF129134; AAB93462.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCB1_TaxID-9790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS01033; GLOBIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro: IPR002338;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                        44 FPHFDLSHGSAQV 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             44 FPHFDLSHGSAOV 56
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Query Match Best Local Similarity 15

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H AND	Sequence 1, Appli Sequence 70, Appli Sequence 24, Appli Sequence 25, Appli Sequence 17, Appli Sequence 17, Appli Sequence 27, Appli Sequence 27, Appli Sequence 3, Appli Sequence 4, Appli Sequence 11, Appli Sequence 18, Appli Sequence 19, Appli

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MEDIEM TYPE: Floapp disk
FOMPULER: IHM FC TOPBOLT DIE
OPERATIEN: SYSTEM: EN LESSYMS DOS
SOFTWARE: Patentla Release #1.0, Version #1.40
CURRENT APPLICATION DATA:
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NAME: RYRNE, ILEMAS E.
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INFORMATION FOR SEQ 1D NO: 2:
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MEDIUM INTER Floapy disk
COMPUTER: HW PC compatible
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                                                    PRIOR APPLICATION DAIA:
AFFLENAIS NUMBER DESB/555 MAZ
AFFLENAIDE LA SEF-1995
ATF-SHEY/AGENT INFOSHATION:
NAME NYMEE, THOMAS E.
REPUSTACATION NUMBER 22,265
REPUSTACATION NUMBER 22,265
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COMPUTER: HIM PC compartible
OPERATING SYSTEM: PC-108/MS (bg)
SOFIWAKE: Patent to Reloase #1.0, Version #1.40
CURRENT APPLICATION DATA:
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28-SBP-1995
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Best Local Similarity
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 1:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                      TOPOLOGY: linear
MOLECULE TYPE: peptide
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NAME: BYRNE, THOMAS E.
REG.SIACTION NUMBER: 32,205
PEFEPFNOY/YOU'VET NUMBEP: 1931-177
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SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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TITLE OF INVENTION: USES THEREOF
NUMBER OF SEQUENCES: 27
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STATE: VIRGINIA
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100.0%; Pred. No. 3.8e-06;
                                                                                  80.0%; Score 72; DB 2; Length 13; 100.0%; Pred. No. 3.8e-06;
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Best Local Similarity 100.0%; Pred. No. 3.8e-0
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APPLICANT:
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COMPUTER: IBM 9C compatible
OPERATING SYSTEM: FC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.40
CURRENT APPLICATION DATA:
                                                 NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                      APPLICANT: Turpen, Ann Myers
APPLICANT: Garder, Stephen J.
APPLICANT: Grill, Laurence K.
FITLE OF INVENTION: RECOMBINANT PLANT VIRAL MUCLEIC ACIDS
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APPLICANT: WOLFE, STEPHEN D.
TITLE OF INVENTION: INHIBITOR OF STEM CELL PROLIFERATION AND
TITLE OF INVENTION: USES THEREOF
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SIREET:
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           ADDRESSEE: Limbach & Limbach
STREET: 2001 Ferry Building
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Turpen, Thomas H.
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Dawson, William O.
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Rest Local Sumilarity
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RESERVENCE/DOCKET NUMBERS 18700 2012/1
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TELEPONE ATTOM THEORYALI AND TELEPONE ATTOM ATTOM ATTOM ATTOM THEORYALI AND TELEPONE ATTOM ATTO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IVIVA NOTIVATIBLE SALVA
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REGISTRATION NUMBER: 28.
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COMBULER: THM FC compatible
COMBULER: THM FC compatible
                                                              ALMARKSORE
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2046 Central Avenue
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                                                       Sometospen, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FOR LINE BOT
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DOLON: Pred. No. 5 Se OS:
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98-08-170 095H 1
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Patent No. 5589367
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COMPUTER: IEM PC compatible
OFERATING SYSTEM: PC DOS/MS tos
SOFTWARE: Potent in Roleage #1.0, Version #1.25
CURRENT APPLICATION DATA:
                  APPLICATION NUMBER: US 923,692 FILING DATE: 31 JUL-1992 PRIOR APPLICATION DATA:
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MOLECULE : AN CLOROLI
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APPLICANT: bawson, William 0.
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MEDIUM TYPE: Disketto, 3.50 in
COMPUTER: Apple Macintosh
COMPUTER: SYSTEM: System 7.0.1
SOFTWARE: Microsoft Word 5.0.4
CURKENT ACPLICATION DATA:
                                                                              PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: GATAOT, STEPHON J.
APPLICANT: GTITL, LAUTONCE K.
TITLE OF INVENTION: REMOMBINANT FLANT VIKAL NUCLEIC ACIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Grantham, George I
APPLICANT: Turpen, Thomas H.
APPLICANT: Turpen, Ann Myers
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LENGTH: 141
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                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                              STATE: CAL
                                                                                                 CLASSIFICATION:
                                                                                                                                        APPLICATION NUMBER: US/08/184.247
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STRANDEDNESS: sin
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CLASSIFICATION: 530
APPLICATION NUMBER: US 600, 244
                                                                                                                        FILING DAIE
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                                                                                                                                                                                                                                                                                                                    San Francisco
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US-08-240-712-17
; Sequence 17. Application US/08240712
; Patent No. 5599907
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Matches 13: Conserv
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CURRENT APPLICATION EDAY, MS-DOS

APPLICATION DATA.

APPLICATION HUMBER 05.08,/240.712

FILING DATE: 95.MAY-1994

CLASSIFICATION: 530
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MOLECULE TYPE: protein
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LENGTH: 141 amino acids
TYPE: amino acid
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REFERENCE/DOCKET NUMBER: 810G-20121 USA
TELECOMMINIOATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US 215,279 FILING DATE: 15-JUL-1988 ATTORNEY/AGENI INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: MATHEWS, ANTONY JAMES APPLICANT: STEILER, GARY L.
                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 31 FILING CATE: 08-JUN 1989 PRIOR APPLICATION PATA:
                                                                                                                                                                COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: PRODUCTION .
TITLE OF INVENTION: PRODUCTION
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PRIOR APPLICATION DATA:
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                                                                                COMPUTER: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Fatentin Palana
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                                                                                                                                                                                                                    CITY: Washington STATE: D.C.
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RIOR APP TOATE: DATA:
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TELEFAX: 415-433-8716
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                                                                                                                                                                                                                                                     419 Seventh Street, N.W., Suite 309
                                                                                                                                                                                                                                                                                                                                                                                                        ANDERSON, DAVID C
                                                                                                                                                                                                     USA
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100.0%; Prod. No. 5.30 05;
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US-08-240-712-26
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INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACHERISIICS:
                                                                  INFORMATION FOR SEC ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
FILING DATE: 09-MAY-19
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TELEPHONE: 202-628-5197
TELEFAX: 202-737-3528
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APPLICATION NUMBER: FCI/US92/09752
FILING DATE: 13-MAY-1993
                                                                                                                                    TELECOMMUNICATION INFORMATION:
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FILING DATE: 13-MAY-1993
AITORREY/AGENT INFORMATION:
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AFTORNEY/AGENT INFORMATION:
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                                                                                    TELEPHONE: 202 CT TELEPHONE: 202-737-3528
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STRANDEDNESS:
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TYPE: amino acid
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STEILER, GARY L.
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No. 5.46-05 Matches 15. Tableratine of Mismorthes o
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TELERAN DE
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APPLIFANT: STELLER, GARY L.
THILE OF INVENTION: PRODUCTION AND USE OF MUDITMERIC
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NURVENT APPLICATION HAIA:
APPLICATION HAMBER: US/OU/240,713
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RESUL. 13

US-08.44-890-17

: Sequence 17, Application US/0844 Revo-

nce and No. 5739011
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APPLICANT: Hottman, Stephen A.
APPLICANT: Nadal, Klyoshi
Title of Invirution: Blood Subs
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                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: ANDERSON, DAVID C.
APPLICANT: MATHEMS, ANTERY JAMES
APPLICANT: STETLER, CARY L.
ITTLE OF INVENTION: PROBECTION AND USE OF MILLIMERIC
LITLE OF INVENTION: HEMOGLOBINS
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COMPUTER REALIZED FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: TAM PC COMPATIBLE

OPERATION: SYSTEM: PC DOS/MS Inst
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PILLING BATE: MAY 17, 199
ATTORNEY/AGUNT | MICHMATION:
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                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
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                                                                                                                       CITY: Washington STATE: D.C.
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                                                                                                                                                                                  ADDRESSEE: Browdy and Neimark
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 530
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                                                                                                                                                                 SIREEL: 419 Seventh Street, N.W., Suite she
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5797 Central Avenue
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Best Local Similarity
                                                                                                   PRIOR APPLICATION UMBER: 09-MAY-1995
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US-08/2
FILING DATE: 09-MAY-1994
APPLICATION
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INFORMATION FOR SEQ ID NO: 17:
FILING DATE: 13-MAY-1993
ATTOKNEY/AGENT INFORMATION:
NAME: COUPER, IVEK P
PERSISTEATION NUMBER: 28,0
REFERENCE/DOCKET NUMBER: ...
                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDILM TYPE: Floppy disk
COMPUTER: IHM PC compatible
OPERATING SYSTEM: PC DOS/MS-DOS
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APPLICANT: STEILER, CARY L.
TITLE OF INVENTION: PECRY L.
TITLE OF INVENTION: HEMOGLOBINS
                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
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FELEFAX: 202-737-3528
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ATTORNEY/AGENT INFORMATION:
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STRANDELNESS: single
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REGISTRATION NUMBER: 28,005
                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/443,890
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FILING DATE: 09-MAY-1994
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                                                                                                 09-MAY-1994
UMBER: PCT/US92/09752
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Best Local Similarity 100.
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INFORMATION FOR SEQ ID NO: 26:
                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-628-5197
TELEFAX: 202-737-3528
                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
43 FPHFDLSHGSAQV 55
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compages Ltd.

# OM protein : protein search, using sw mode: Pun on: June 71, 2001, 10:25:33 ; Search time 20:16 Seconds (without alignments) 56.677 Million cell updates/sec perfect score: Sequence: US-08:832-443B-2 perfect score: Sequence: Prosum62 Gapop 10.0 ; Gapext 0.5 Searched: 219241 scqs, 76174552 residues Total number o: hits satisfying chosen parameters: Minimum DB seq length: 0 Maximum DB seq length: 2000000000 Post processing: Minimum Match 08 Maximum Match 108 Listing first 45 summaries Database: PIR 68:\* 1: pir1:\* 3: pir4:\* 4: pir4:\*

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### SUMMARIES

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ŧ)	-1	90.0	44.	_	HACZP	n alpha
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I. Biol. Chem. 748, 992 1003, 1973
A.Ditle: Hemoslobin Calpha chains in ages.
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AsAccession: Av2146
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- cross (Bis) (pro-rime) a-ial ligand) #status predicted
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demodiabile aipha chain — steen membey
7.Spectes — Freq Phes s a-thiq (press modey, prizet)
6.Date: 28-May-1986 #seepence, resisted 28-May 1986 #rext_champo 97-Mar 1000
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A:Residues: 1-141 -MAT>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cibate: 31 Dec 1990 #sequence_revision 31 Dec 1990 #text_change 03 Mar 2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :Supertamily: alobin; dobin homotody
:Reywords: blood; chromopotein: erythrocyte: heme: iten: metalloprotein; oxyden car
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Best Local Similarity 100.0%;
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J. Pept. Protein Res. 5, 405-414, 1973
                                                                                                                                                                                                                                                      43 FPHFDLSHGSAQV 55
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80.0%; Secret 72; DR J; Length 141; 100.0%; Pred. No. 6e-05;
                                                                                                                                                                                                                                                                                                                                                                                          0: Mismatches
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RESULT 6
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RAMOO'
C.Species Note of the solution of the monkey
C.Species Note of the solution of the monkey
C.Species Note of the solution of the monkey
C.Species Note of the solution of the new polytope for the polytope
C.Acression: A02252
R.Addanda, G.; Maita, T.; Watanaho, b.; Araya, A.; Merokuma, K.; Goodman, M.; Prychod
R.Addanda, G.; Maita, T.; Watanaho, b.; Araya, A.; Merokuma, K.; Goodman, M.; Prychod
R.Addanda, G.; Maita, T.; Watanaho, b.; Araya, A.; Merokuma, K.; Goodman, M.; Prychod
R.Addanda, G.; Maita, T.; Watanaho, at the alpha and beta polypoptide chains of adult h
A.Reterere number: A02252; MOID:75040050
A.Accession: A02252
A.Motheule type: protein
A.Reteidens: 1-141 - MATS
C.Superfamily: alobin: alobin homology
C.Keywords: blood: chromoprotein; crythrocyte; heme; iron: metalloprotein: oxygen car
E:2-141/Ismmain: alobin homology -GLB-
E:547/Binding site: boxygen (His) (distal axial ligand) #status predicted
E:67/Binding site: boxygen (His) (distal axial ligand) #status predicted
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Outery Match

80.0%; Score 72; Dit 1; Lougth 141;
Best Local Similarity [80.0%; Pred. No. 6e 05;
Matches [3]; Conservative 0; Mismatches 0; Endels 0; Gaps 0

QY 2 PPHFDLSHGSAOV [4

[11.11111111]
[b] 44 PPHFDLSHGSAOV 55

RESULT 7

HAMOIP homosphobin alpha 1 chain plq tailed macaspue
[1.5]secies. Macaca numestrina (pid tailed macaspue)
[2.5]secies. Macaca numestrina (pid tailed macaspue)
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80.0%; Score 72; DB 1;
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Length 141

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C:Superfamily: globin; globin homology
C:Roywords: blood chromophology orgibrocyto; bomo; beterotetramer, from; metalloprote
F;2-141/Gensin; globin bosphology of LE
F;58/Binding site: expos (His) (distal axia) Haand) #status prodicted
F;87/Binding site: heme from (His) (proximal axia) ligand) #status prodicted
A.Molecule type: protein
A.Molecule type: protein
A.Residues: 1-141 <MAT>
C.Supertamily 4 Jobin fomology
C.Supertamily 4 Jobin fomology
C.Supertamily 4 Jobin fomology
C.Supertamily 5 Jobin fomology clib
F.2-141/Domain: globin fomology <CLB
F.2-141/Domain: globin fomology <CLB
F.58/Pinding site exyren (His) (distal axial ligand) #status predicted
F.87/Binding site hase iton (His) (proximal axial ligand) #status predicted
                                                                                                                                                                                                                                                                                    C:Accession: A02253
K:Matsuda, G. Maira, T. Surenyama, Y.: Serequebi, M.: Ora, Y.: Araya, A.: Goodman, M.:
HOppe-Seylon's Y. Physiol. Ohem. 354, 1637-1620, 1923
A:Title: Studies on the primary structures of alpha and beta polypeptide chains of adult A:Reference number: A02253; MUID:75059126
                                                                                                                                                                                                                                                                                                                                                                                                                                                        homoglobin alpha chain—black-handed spider monkey)
C:Species: Ateles geotfroyi (black-handed spider monkey)
C:Date- 28-May-1986 #requence_revision 20-May-1986 #text_change 03 Mar 2000
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E)58/Binding site: oxygen (His) (distal axial ligand) Estatus predicted
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A:Residues: 1-141 <MAH>
C:Superfamily: globin; globin homology
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A;Title: Hemoglobin alpha-chain variation in macaques: primary structures of the alpha(A:Reference number: S06514; MUID:ROBER (A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C.Species: Macaca nemestrina (pig-tailed macaque)
C:Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 03-Mar-2000
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C.Species: Macaca nemestrina (pig-tailed macague)
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Arch. Biochem. Biophys. 196, 64-72, 1979
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Best Local Similarity
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C;Species. Saquinus fuscicullis (brown-bec
C;Date: 28 May 1986 #sequence_revision 28
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F;58/Binding site: oxygen (His) (distal axial ligand) #status predicted
F;87/Binding site: heme iron (His) (proximal axial ligand) #status predicted
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C:Superfamily: globin: globin homology
C:Superfamily: globin: globin homology
C:Keywords: blood, chromoprotoin, erythrocyte, bome, iron, metalloprotein, oxygen car
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P.Matsoda, G.; Maita, T.; Watanabe, R.; Alaya, A.; M.: Odania, K.; Odania, Y.; Goodman, M.; Hoppe Seyler's Z. Physiol. Chem. 354, 1513-1516, 1973
A.Title. The amine acid sequences of the alpha and beta polypeptide chains of adult h. A.Reference number: A02254; MOID:75059125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Accession: A02254
P,Matsuda, C; Mait
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       homo-jebin ilpha chain. Ibrown capuchin
C:Species: Cebus apella (Frown capuchin, black capped capuchin)
C:Pate: 28-May:1985 #sequence_recision 28-May 1985 #rext_change 03-Mar-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G;Keywords: blood; chromoprotoin; erythrocyte; heme; heterotetramer; iron; metallopro F;2 141;Ounain; globin komology "GLB: F:58/Piodicy site; cyypen (His) (distal axial ligand) #status predicted F:58/Rinding site; home from (His) (proximal axial ligand) #status predicted
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C;Superfamily: globin; globin homology
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A;Accession: $06512
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J. Biochem. 95, 805-813, 1984
A.Tiile. Frimary structure of adult be
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C;Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 03-Mar-2000
C;Accession: S06512
C; Accession: A02255
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Post Local Sim
Matches 13,
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13. Conservative
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C:Superfamily: elobin: slobin bowelogy
C:Keywords: blood: chromoprotein; erythrocyte: home: heterotetramet; iron; metalloprote
F:2 141/Demain: elobin homelogy sliks
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AsAccession: Av1549
AsMolegule type: protein
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A: Residues: 1 141 - MAI -
C: Supertamily: alobic: 41
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J. Brochem. 84, 377 (R4, 1978
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Cobate: 4 Mai 1992 #sequence revision 3 Mai 1992 #rext_clange 93 Mai 2000
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Fushman, G.D., ed., pp.441-460, Chemical Rubber Co., Cleveland, 1976
A;Reference number: A04620
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A:Fille: Frimary Stracture of the marmoset (Sapulnes fiscice-His) homoglobin. I. Use
A:Reference number: Avozau: MUID:77021459
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Job time:

Search completed: June 21, 2001, 10:25:33

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F:2-141/Domain: globin homology +GLB+
F:56/Binding site, -aspen (Bis) (distal asial ligand) #status predicted
F:87/Binding site- homolicum (Bis) (proving) axial ligand) #status predicted
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C)Species: Nyteticebus concand (slow loris)
C)Date: 24 April 1984 #sequence_revision (liber 199) #fext_change 03 Mar 2000
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":Koywords: blood: chromoprofein: erythrocyte: beme: beterofetramer: iron: metallopio
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A: Residues: 1 141 - MATS -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A: Accession: A02260
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GenCore version 4.5

Copyright (n) 1444 - 2000 Compagen Ltd.

OM protein protein search, using sw model

Run on:

June 21, 2001, 10:29:19; Scarch time 11.96 Seconds (without alignments)

42 963 Million cell updates/sec

Fitle:

US-08-832-4448-2

Perfect score: 90
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Fitle: US-08-832-443B-2
Perfect score: 90
Sequence: 1 CPPHFDLSHGSAQVC 15
Scoring table: BL/SUM62

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Total number of hits satisfying chosen parameters: 9

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 1009 Listing first 45 summaries

Database : SwissProt\_39:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the esult being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

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# ALIGNMENTS

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HBAL_TADBR STANDARD; PRT; 141 AA. P11755; O1-0CT-1989 (Rel. 12, Greated) 21 CCT-1989 (Rel. 12, List sequence update) O1-JUN-1994 (Rel. 29, Last annotation update) HEMOGLOBIA ALPHA-1 CHAIN. Tadarida brasilionsis (Brazilian free tailed bat). Eukaryota, Metauca, Chordata, Craniata, Vertebrata, Euteleostemi; Mammalla, Eutheria, Chiroptera, Microchiroptera; Molossidae; Tadarida. NCBI_TaxID=9438; [1]	2 FPHFDLSHGSAQV 14	Query Mitch Rest renal Similarity 100 0% Pred No. 4 80-06; Matches 13: Conservative 0: Mismatches 0: Indels 0: Gaps 0:	PRINTS, PROOF12: ALPHAHAEM.  RROSTTE, PSO1033, GLOBEN; 1.  Heme, Gwygen transport, Respiratory protein; Erythrocyte.  METAL 57 S7 IRON (HEME DISTAL LIGAND).  METAL 86 86 IRON (HEME PROXIMAL LIGAND).  SECUENCE 140 AA: 14949 MW; A4DIPA485F4DE234 CRC64;	(1749EAPPMES SCIEPSICEROS). ) Biol. Chem. Hoppo-Seyler 366:395-402(1985). PIR; A0229; HAROKA. HSSP; P01966; 1HDA. InterPro; IPR000971; . InterPro; IPR002338; Pius; PF20042; qlobin; l.	NCHI_TaxID=9946; [1] SEQUENCE. SEQUENCE. MEDIINE 95774993; PubMod-4008993; Redewald K., Wiesner H., Braunitzer G.; Primary structure of the hemoglobins from the greater Kudu antelope	HEMOGLOHIN ALPHA CHAIN. Tragelaphus strepsiceros (Greater kudu). Eukaryota; Mctazoa; Chordata; Craniata; Vertebrata, Huteleostomi; Mammalla; Eutheria; Cetartiodactyla; Kuminantia; Pecora; Hovoidoa; Bovidae, Bovinae, Tragelaphus.	10423/; 20-MAR-1987 (Rel. 04, Created) 20-MAR-1987 (Rel. 04, Last sequence update) 01-UN-1994 (Pel. 29, Last annotation update)	ILT   _!RAST _HBA_TRAST STANDARD; PRT; 140 AA.

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The complete primity structure of the marine Carbivota, malapadoes
for soul (Archoephalus dalapadoesis, otaridae) hemoriobins.";
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Peach 18: Conservative
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21 JUL. 1986 (Rel. 01, Created)
21 JUL. 1986 (Rel. 01, Last sequence update)
01 OCT-2000 (Rel. 40, Last annotation update)
              Aschauer B., Wiesmer H., Braunitzer G.:
"Intrinsic oxygen attinity: the primary structure of a ruminant memorabilis methicanine in betaMA2 of a pecora, the Northern elk (Aleos aleos aleos).":
Hoppe-Seyler's Z. Physiol. Chem. 65:132-1330(1984).
                                                                                                                                                                                                                              Aices alces alces (Baropean woose) (Bik).
Enkaryota: Metazoa; Chordata; Chaniata; Vertobrata; Entoleostomi;
Mammalia: Entheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;
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21-JUL-1986 (Rel. 01, Last sequence update)
01-0CF-2000 (Rel. 40, Last annotation update)
                                                                                                                                  MEDITINE 85078042: PubMed 6510898
                                                                                                                                                       SECHENCE
                                                                                                                                                                                            NCBI_TaxID-9854;
                                                                                                                                                                                                                Cerridae: "docoileinae: Alces
                                                                                                                                                                                                                                                                                          HEMOGLOBIN ALPHA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE 141 AA; 14981 MW; 16124229114D8669 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Heme: Oxygen transport: Respiratory protein: Erythocyte METAL (SB 58 1RON (HEME DISTAL LIGAND).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Studies on yak hemoalobin (Bos grantiens, Boridae): structural basis tor high intrinsic oxygen attinity?"; Biol. Chem. Hoppe Seyler 366:63-68(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bukaryota: Metazoa; Chordata; Craniata; Vertebrata; Enteleostomi;
Mammalia, Entheria; Cetartiodaetyla: Rominantia: Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE: PS01033; GLOBIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS: PRO0612: ALPHAHAEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plam; PF00042; globin; l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro: IPR002338;
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VARIOUS PERIPHERAL TISSUES
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Best Local Similarity
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Best Local :
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                                                                                                                                                                                                                                                                                                                                             Kleinschwidt T., Koop B.F., Braunitzer G.;
"The primary structure of the pallid bat (Antropous pallidus Chiroptera) hemoglobin.";
piol Chiroptera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -!- SUBUNIT: TETRAMER OF TWO ALPHA CHAINS AND TWO BETA CHAINS.
-!- TISSUE SPECIFICITY: PED RICORD CELLS.
-!- SIMILARITY: BEDICANS TO THE CICRIN FAMILY.
PIP: A02295: HAEKN.
                                                                                                                                                                   Pfam; PF00042; globin; 1.
PRINTS: PR00612; ALPHAHAEM
PROSITE: PS01033; GLOBIN;
                                                                                                                                                                                                                                                                                                                                     Biol.
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01-JAN-1990 (Rel. 13. Last sequence update)
01-JCL-2090 (Rel. 40. Last annotation update)
HEMOGLOBIN ALPHA CHAIN.
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PRINTS; PR00612; ALPHAHAEM.
PROSITE; PS01033; GLOBIN: 1
                                                                                                                   SEQUENCE
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InterPro; IPR000971;
                                                                                                                                                                                                                                                       PIR: A29702: A29702.
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                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia, Eutheria, Chiroptera, Microchiroptera, Vespertilionidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antrozous pallidus (Pallid bat).
Fukaryota: Motazoa: Chordata: Craniata: Vortobrata: Eutoloostomi:
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-!- SIMILARITY: BELONGS TO THE GLOBIN FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9440;
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                                                                                                                                                                                                                InterPro;
43 FPHFDLSHGSAQV 55
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                        2 FPHFDLSHGSAQV 14
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58 58 IRON (F
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UNCTION: INVOLVED IN OXYGEN TRANSPORT FROM THE LUNG TO THE
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100.0% - Prod No
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IRON (HEME DISTAL LIGAND).
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Best Local Similarity
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HSSP; P01922; 1FDH.
InterPro; 1PR000971; -
InterPro; 1PR002338; -
                                                                                                                                                                                                                                                                                                                                                                       SPECIES=A.geoffroyi;
MEDLINE=75059126; PubMed=4215720;
MEDLINE=75059126; PubMed=4215720;
Matsuda G., Maita T., Suzuyama Y., Sotoquohi M., Ota Y., Araya A.,
Goodman M., Barnabas J., Prychodko W.;
Studies on the primary structures of alpha and heta polypeptide
chains of adult hamoglobin of the spider menkey (Areles geoffroyi).";
Choppe Seyler's Z. Physiol. Chem. 354:1517-1520(1974)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 p91927;
21:JUL:1986 (Rel. 01, Created)
21:JUL:1986 (Rel. 01, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update
                                                     Kison bonasus (European bison).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetarthodaetyla; Ruminantia; Pecora; Bovoidea;
Hovidae; Bovinae; Bison.
                                                                                                          01-MAR-1989 (Rel. 10, Created)
01-MAR-1989 (Rel. 10, Last Sequence update)
01-977-2990 (Fel. 40, Last sequence update)
HEMCGLORIN ALPHA-1 AND ALPHA-11 CHAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE.
SPECIES=S.oedipus;
MEDLINE=84212389;
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Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Enteleostomi;
Mammalia: Eutheria: Primates, Platyrrhini; Cebidae: Atelinae: Ateles.
SEQUENCE: MEDLINE-86296178; PubMed 3741621;
                                        NCBI_TaxID=9902;
                                                                                                                                                                        P09423;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Biochem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Callithrix argentatus, and cotton headed tamarin, J. Biochem. 95:805-813(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maita T., Hayashida M., Matsuda G.;
"Primary structures of adult hemoglobies of silvery marmoset
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9509, 9490;
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                                                                                                                                                                                    STANDARD:
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100.0%; Pr
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100.0%; Pred. No.
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                                                                                                                                                                                                                                   HSSP;
                                                                                                                                                                                                                                                           FIRE AUGGRESS HARRY
                                                                                                                                                                                                                                                                                                                                                                                                                                         "Aurino acid sequence of gayal hemoglobin (bos gaurus frontalis
Bovidae).":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bukaryeti: Metabas Cherdatis Craniatas Vertebratas Enteleostomis
Mammallis Batherias Cetartiodaetylas kominantias Pecoras Bossideas
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"Intrinsic exymet allinity of hemoglobius: the hemoglobiu of bisons
(Buson E nasous Bezidae).":
                             WE I AI
                                                                                                                                                                                Interpres
                                                                                                                                                                                                           InterPro: [PRocous/];
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SCHOOLLE TETFAMER OF TWO ALPHA CHAINS AND TWO BETA CHAINS.
                                                                                                                                                                                                                                                                                SIMILARITY: RELONGS TO THE GLORIN FAMILY
                                                                                                                                                                                                                                                                                                                                 VARIOUS PENTEMERAL FISSUES.
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                                                                        exystem transport: Respiratory protein: Erythrocyte.
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THON (HEME LISTAL LIBAND).
THON (HEME PROXIMAL LIBAND).
14025F28DF4DB609 CR064;
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3 + D (IN ALPHA I).
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J. Mol. Biol. 233:536-545(1993)
-i- FUNCTION: INVOLVED IN OXYGEN TRANSPORT FROM THE LUNG TO THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE 141 AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Home; exygen transport; Respiratory protein; Erythrocyte;
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PDB; 1HDA; 31-MAY-94.
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"A novel allosteric mechanism in bacmaqlobin. Structure of bovino
deoxybacmodlobin, absence of specific chloride binding sites and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schröeder W.A., Shelton J.K., Shelton J.B., Robberson B., Babin D.K.: "Amino acid sequence of the alpha chain of begine fetal hemoglobin.": Arch. Biochem. Biophys. 120:1-14(1967).
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Mammalia: Entheria: Cetartiodactyla: Ruminantia: Perora: Bovoidea
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100.0%; Pred. No. 9.9e-06
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Best L
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"Respiration at high altitudes, phosphate-protein-interaction: sequence of the hemoglobins of the hamster (Mesocricetus auroa the camel (Camelus Terus, Cameldae).";
J. Chem. Soc. Pak. 2:1-7(1980).
-i- FUNCTION: INVOLVED IN OXYGEN THANSPORT FROM THE LUNG TO IN-
                                                                                                                                                                                                                                                                                                                                                               21-JUL-1986 (Rel. 01, Greated)
21-JUL-1986 (Rel. 01, Fish sequence update)
01-OCT-200 (Rel. 40, Last annotation update)
HEMOGLOBIN ALPHA CHAIN.
                                                                                                                                                "Respiration at high altitudes, phosphate-protein interaction: the sequence of hemoglobins from quinea pig and dromedary."; Hopper-Seylet's Z. Physioi. Chem. 360:1941-1946(1979).
                                                                                                                                                                                                                                                                                Eukaryota: Metazoa; Chordata, Craniata, Vertebrata, Euteleustomi;
Mammalia: Futboria; Cetartiodactyla; Tylopoda; Camolidac; Camolus
NCBI_TaxID=9838, 9837;
                                                                                                                                                                                                                                 SPECIES=C.dromedarius
                                                                                                                                                                                                                                                                                                                              Camelus bactrianus (Bactrian camel)
                                                                                                                                                                                                                                                                                                                                              Camelus dromedarius (Dromedary) (Arabian camel), and
                                                                                                                                                                                                                                                                                                                                                                                                                                                 HBA_CAMUR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIOUS PERIPHERAL TISSUES.
-:- SUBJUST: TETPAMER OF TWO AIPHA CHAINS AND TWO BETA CHAINS
-:- TISSUE SPECIFICITY: RED BLOOD CELLS.
-:- SIMILARITY: RELONGS TO THE GLOBIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Callithrix argentatus, and cotton headed tamarin, Saguinus oedipus.",
J. Biochem. 95:805-813(1984).
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Maita T , Hayashida M , Matsuda G ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
Mammalia: Eutheria: Primates: Platyrrhini: Callitrichidae;
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01-NOV-1990 (Rel. 16, E
01-OCT-2000 (Rel. 40, E
HEMOGLOBIN ALPHA CHAIN.
                                                                                   Braunitzer G.,
                                                                                                  SPECIES-C.bactrianus;
                                                                                                                                                                                                Braunitzer G., Schrank B., Stangl A., Wiesner H.;
                                                                                                                                                                                                                 MEDLINE - 80114125; PubMed = 527943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
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58 58 IRON (HEME DISTAL LIGAND).
87 87 IRON (HEME PROXIMAL LIGAND).
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141 AA;
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                                                                                   Schrank B., Stangl A., Wiesner H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SFANDARD;
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16, Last sequence update)
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Best Local Similarity
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21 JUL-1986 (Rel. 01, Last sequence update)
21-JUL-1986 (Rel. 01, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
HEMOGIAGRIN ALPHA 1 AND ALPHA 2 CHAINS.
                                                                                                                                                                                                                                                                                                                                                                      Schon E.A., Wernke S.M., Lingrel J.B.: "Gene conversion of two functional goat alpha-globin denes preserves only minimal flanking sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Heme: Oxygen transport; Respirator; protein, Erythracyte
METAL 58 1RON (HEME DISTAL LJOAND).
METAL 87 1KON (HEME PROXIMAL LJOAND)
              Biochem. J.
                                           Reale D
                                                        SPECIES Sheep: STRAIN SOAY BREED, AND CLAN MEDLINE 67209244; PubMed = 6033754;
                                                                                                                   Nature 226:354-355(1970).
                                                                                                                                  "Haemoglobin alpha chain duplication
lervia, Fallas, 1777.";
                                                                                                                                                             Wilson J.B., Wrightstone R.N., Huisman T.H.J.;
                                                                                                                                                                           MEDIJINE=70163388; PubMed=5439729;
                                                                                                                                                                                          SPECIES=A.lervia;
                                                                                                                                                                                                                                      alpha chains of the hemoglobins A and B J. Hiol. Chem. 243:3675-3686(1968).
                                                                                                                                                                                                                                                                 Huisman T.H.J., Brandt G., Wilson J.B., "The structure of goat hemoglobins. II.
                                                                                                                                                                                                                                                                                              SPECIES=C.nircus;
MEDLINE=68313123; PubMed~5658544;
                                                                                                                                                                                                                                                                                                                  SEECLES=0
                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIINE-82213818; PubMed: 6282825;
                                                                                                                                                                                                                                                                                                                                                                                                                                   SPECIES=C.hircus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID-9925, 9899, 9940;
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Boyidae: Caprinae: Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Övis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Capra hircus (Goat), Ammotragus lervia (Barbary sheep) (Aoudad), and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -1- TISSUE SPECIFICITY: RED BLOOD CELLS.
-1- SIMILARITY: BELONGS TO THE GLOBIN FAMILY.
                          "A partial amino acid sequence for sheep haemoblogin A.";
                                                                                                                               lervia, Pallas,
                                                                                                                                                                                                                                                                                                                               PARTIAL SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
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-!- SUBUNIT: TETRAMER OF TWO ALPHA CHAINS AND TWO BETA CHAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43 FPHFDLSHGSAQV 55
                                                                                                                                                                                                                                                                                                                                                           Biol. Chem.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Metazoa; Chordata; Craniata; Vertebrata; Enteleostomi;
              103:129-140(1967).
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                                                                                                                                             Barbary sheep, Ammotraque
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Brointermatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usago by and for compensational statement is not removed.
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SPECIES Shoot: STRAIN RAMBOULLIEF BREEDO
MEDIINE GOOD 124: PubMed 5658545;
                                                                                                                                         VARIANT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "The structure of sheep hemoglobins, \mathcal K Structural studies on the alpha chara of hemoglobin A. ":
                                                                                                                                                                                                                                                                                                                          InterProp (PROCOS71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hotisman I H.J.
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4 Y PERFECTION SALVE ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            isman I H.J., body A.M., Wilson J.B., Effence 3 b., Vaskoz R.; teep benealobit D. an alpha etalia zariant with ane apparent amino of substitution (alpha 15 Gly - Asp.) "; ethin, Brophys. Acta 160:447 469(1968).

BULYMOOPHISM: SHEEP ALPHA D ALERE DIFFERS FROM THE ALPHA-A ALLERE IN HAVIN: 15 ASP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MISCELLANDARS: SHEEP INSQUIRGE CARE REGION (PASTITIONS 100-149)
CORRESPONDING REGION SHOWN (REF.4). AND TWO FEWER SER THAN THE
CORRESPONDING REGION SHOWN (REF.4). A TOORDING TO REF.5 IT CONTAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPEAR TO DIFFER IN THREE POSITIONS, BOTH CHAINS DIFFER FROM THE COAT ROBALLELS CHAINS IN HAVING GLX INSTEAD OF ASX AT POSITION TO BE ALSO AS A COMMITTEN TO BE APPEARENTLY IDENTICAL.
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MISCELLANDORS: HARBARY SHEEP HAS INO NONALLELLO ALPHA CHAINS THAT
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                                                                   100.0%; Store 72; 188-1,
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Rest Local Similarity
Matches 13; Conserv
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21-JUL-1986 (Rel. (
21-JUL-1986 (Rel. (
21-JUN-1984 (Rel. (
01-JUN-1984 (Rel. (
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Heme: Oxydem transport; Respiratory protein; Enythrocyto-
METAL 58 Here (HEME DISTAL LICAND).
METAL 87 HOW (HEME FOOXIMAL LICAND).
SEQUENCE 141 AA: 15124 MW: GeneraleEsbiA71Ac CROSA:
                                                                         PROSITE: PS01033; GLOBIN; 1
                                                                                      Priam; PF00042; globin; l. PRINTS; PR00612; ALPHAHAEM
                                                                                                                                                              HSSP; P01922; 1FDH.
                                                                                                                                                                         Biol. Chem. Hoppe Seyler 367:147 [52](986).
PIR: A25477; A25477.
                                                                                                                                                                                                              Cebus capacinus.";
                                                                                                                                                                                                                                                                                                                 Mammalia; Butheria; Primatos; Platyrrhini; Cebidae, Cebinae; Cebus, NCBL_TaxID 9516;
                                                                                                                                                                                                                                                                                                                                                  Enkaryota; Metazoa; Chordata; Craniata; Vertebiata; Enteleostomi;
                                                                                                                                                                                                                                                                                                                                                                   Cebus capacinus (White-taced sapajon).
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PRINTS: PR00612; ALPHAHAEM.
PROSITE: PS01033; GLOBIN: 1
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Hopper Seyler's Z. Physiol. Chem. 64:1514-1516(1974).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Entelegstomi;
                                                                                                                         InterPro:
                                                                                                                                          interPro;
                                                                                                                                                                                                                            Tanioka Y., Araya A., Maita T., Matsuda G..
™Primary structure of adult hemodlobin of white throated capuchin.
                                                                                                                                                                                                                                                               MEDLINE:86187258; PubMed:3964444;
                                                                                                                                                                                                                                                                                    SEQUENCE
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Goodman M., Barnabas J., Prychodko W.;
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                                                                                                                         IPR002338; -
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Ouery Match 82.0%; Score 72: DB 1; Length 141;
Best Local Similarity 100.0%; Pred No. 9 (e-06;
Matches 13: Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 43 FPHFDLSHGSAOV 55
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SPTREMBL_16:*

1: sp_barchea:*

2: sp_bacteria:

3: sp_tunqi:*

4: sp_human:*

5: sp_inverteb:

6: sp_mammal:*

7: sp_mhc:*

8: sp_orqanel:*

10: sp_phaye:*

10: sp_plant:*

11: sp_rodent:

12: sp_verteb:

13: sp_verteb:

14: sp_virus:**
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 sp_virus:*
                   sp_unclassified:*
sp_vertebrate:*
                                                        sp_rodent:*
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Pred. No. is the number of results predicted by whateh to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result

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# ALIGNMENTS

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Best Local Similarity 100.
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Q9TS35;
0)-MAY-2000 (TrEMBLrel 13, Created)
01-MAY-2000 (TrEMBLrel 13, Last sequence update)
01-MAY-2001 (TrEMBLrel 16, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro: IPR000971; -.
InterPro: IPR00238; -.
InterPro: IPR00238; -.
IPFam; PF00642; qlobin; l.
PKINTS: PM00612; ALPHAHARM,
PKOSITE, FS01333, GLOBEN, l.
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J. Biol. Chem. 267:18398-18496(1992).
-i-SIMILARITY: TO GLOBIN FAMILY.
-i-SIMILARITY: TO ALPHA HAFMOGLOBIN FAMILY.
HESP; P01922; 1820.
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Hylobates lar (Common qibbon).
Hukaryota; Metazca: Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Primates; Catarrhini; Hylobatidae; Hylobates.
                                                                                                                                                                                                                                                                                                                                                                                                                     Erythrocyte, Hemme; Oxygen transport; Kespiratory protoin.
SEQUENCE 141 AA, 15136 MW, 255/3618E36A7706 ORG64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bailey A.D., Stanhope M., Slightom J.L., Goodman M., Shen C.C., Shen C.K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MIDILINE-92406743; PubMed=1526980;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9580;
43 FPHFDLSHGSAQV 55
                                                                                   2 FPHFDLSHGSAQV 14
                                                                                                                                                                            63.0%, Score 72, 58.6; Longth 141: 100.0%; Fred. No. 2.4e-05; rative 0; Mismatches 0; Indols
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                                                                                                                                                                                                                                                                                                       "A new model too constitut non-debetion alpha thalassemia in a chinese HOH Lami)y.";
Submitted (JAN 2000) to the EMBL, Shakak/1983 databases,
(SHMILAKTY: De GLOBELN FAMILY.
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Mammaria: Birberna: Primates: Catarrbini: Hytobatidae: Hytobates:
NEW Jaxib 9500;
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PROSEED (SECTIONS) ALPHAHARM.
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Bukaryota: Metazoa: Cheidata:
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Shen C.K.;
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SIMILARITY: TO GLOBEN FAMILY.
SIMILARITY: TO ALPHA HARMONIOBIN FAMILY.
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                                                                                                                     Oxymen transport; Respectatory protein (2) \mathbf{K}_{-} + \mathbf{K}_{+}
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                 Toucow: Pred: No. 2.4e us;
                                       80.0%; Score 72; DF 4;
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                   Ristaldi M.S., Casula S., Rando A., Vestri R.;
"Sheep alpha globin agne sequences, implications for their concerted evolution and for the down-regulation of the 3' agnes.";
J. Mol. Evol. 40:349-458(1995).
1- SIMILARITY: TO GLOBIN FAMILY.
1- SIMILARITY: TO ALPHA HARDWALLSHIN FAMILY.
                                                                                                                                                                                                                                                                                                           Mammalia: Eutheria: Cetarticdactyla: Rominantia: Pecora: Rovoidea:
Rovidae: Caprinae: Ovis.
                                                                                                                                                                                                                                                                                                                                                               ovis aries (Sheep).
Bukaryota: Metazoa; Chordata; Craniata; Vertebrata; Enteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                       01 NoV-1996 (TrEMBLIEL 01, Created)
01-NOV-1996 (TrEMBLIEL 01, Last sequence update)
01-MAR-2001 (TrEMBLIEL 16, Last annotation update)
EMBL: X79213; CAA49750.1;
                                                                                                                                                                               MIDLINE 35287398; PubMed 776961]
                                                                                                                                                                                                                                   SECTION FROM N.A.
                                                                                                                                                                                                                                                                                     NCB1_TaxID 9940;
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HSSP: P01966; THDA.
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-1: SIMILARITY: TO GLOBIN FAMILY.
-1: SIMILARITY: TO ALPHA HARMOGLOBIN FAMILY
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Enkaryota: Metazoa: Chordata: Craniata: Vertebrata: Enteleostomi;
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01:NOV-1996 (ITEMBLIEL 01, Last sequence update)
01:MARC-2001 (TEEMBLIEL 16, Last amodation update)
ALPHA GLOBIN CHAIN:
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142 AA: 15202 MW; 07 0794982788431 CR654;
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Pred. No. 2.4e-05
N. Wismatches (6)
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PROSTITE: PRO1633; GLUBIN: 1:
BETYTHOOMY.0: Home: GMY900 transport; Pespiratory protoin
SBQUPNOS 142 Ab. 15036 MW: SECOPRIDEOPRETS OPO64;
                                                                                                                                                                                                                                                                                                                                                                                                                             MPDIINE-95287798; PubMod 7769611;
Ristaldi M S. Casula S., Rando A., Vestri R.:
"Sheep alpha-qiobin gene sequences: implications for their concerted
evolution and for the down regulation of the 3' genes",
J. Mol. Evol. 40:449-353(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
ALPHA GLOBIN CHAIN.
                                    01-NOV-1996 (TrEMBLFol. 01, Created)
01-NOV-1996 (TrEMBLFol. 01, Last sequence update)
01-NAR-2001 (TrEMBLFol. 16, Last annotation update)
BIT ALFHA-2 SIGHIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Boyidae; Caprinae; Ovis.
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InterPro; IPR000971;
Eukarycla; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                           -1- SIMILARITY: TO GLOBIN FAMILY.

1- SIMILARITY: TO ALPHA HARMOGLOBIN FAMILY

EMBL, 279,214; "CAA49751.1;

HSSP: P01366, 1HDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE - BLOOD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro: IPR002338;
                           Equus caballus (Horse).
                                                                                         Q28383;
                                                                                                    028383
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                                                                                                                                                                    44 PPHESISHCSAQV 56
                                                                                                                                                                                                                                   Local Similarity
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15178 MW; 0730F84DFB387033 CRC64;
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Schmitted (THE-1998) For the FMPL/Schreck/PRBT databases.
-- SIMILARITY: TO GLORIN FAMILY.
-- SIMILARITY: TO ALPHA HAFMORICHIN FAMILY.
EMBL; M17901; AAA39947.1; S.
HSSP; P01958; IIBE.
                                                                                                                                                                                                                                                                          "Phylogenetic relationships within the of alpha and theta globin genes."; J. Mol. Evol. 47:772-783(1998).
                                                                                                                                                                                                                                                                                                                                                                                   Equus burchelli (Plains zebra) (Equus quaqqa).
Eukaryota; Metarba; Obordata, Oraniata; Vertekrata.
Mammalia; Eutheria; Perissodaetyla, Equidae; Equus
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01-NOV-1999 (TrEMBLrel
01-MAP-2001 (TrEMBLrel
                                                                                                                                                 Pfam; PF00042; globin; 1.
PFINTS; PF00512; ALPHAHAEM.
PROSITE; PS01033; GLOBIN; 1.
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HSSP; P01958; 11BE.
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SEQUENCE 142 AA; 15229 MW; 93AB5BDB650B6B14 CRC64;
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PROSITE; PSO1033; GLOBIN; 1
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Pfam; PF00042; globin; 1
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                                                                                                                         Erythrocyte; Heme; Oxygen transport; Respiratory protein SEQUENCE 142 AA; 15220 MW; 979F83EBD30317E0 CRC64;
                                                                                                                                                                                                                                                -1- SIMILARITY: TO GLOBIN FAMILY.
-1- SIMILARITY: TO ALPHA HAEMOGLOBIN FAMILY
                                                                                                                                                                                                                                                                                                                               MEDLINE-99065770; PubMcd 9847419;
                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
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                                                                                                                                                                                            InterPro; IPR002338; -
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hes 13; Conserv
44 FPHEDLSHGSAQV 56
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100.0%; Pred. No.
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100.0%; Pred. No.
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Bukuryatio Mataka o Chardatio Standatio Vertakaitan Butekongtomi
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OF MAR 2001 (FERMULE), 16, List annotation update)
OF ALFRA HARMOND MIN SHAIN.
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                                                                                                                                                                       CANA CARE DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "exystem transport; Respiratory protein [5022 MW; 8081960e286774] Hereat;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lindsows Preds New 2,400 dt
tien og Mismytelbyg of
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Rost Local Similarity
                    OPXSEB FRELIMINARY, PRI: 142 AA.

OPXNEB:
OLEMBER (TrEMBERGI, 12, Created)
OLEMBY-1999 (TrEMBERGI, 12, Last sequence update)
OLEMBY-2001 (TrEMBERGI, 16, Last annotation update)
Equus hemionus (kulan).
                 ALPHA 2 BEMOGLOBIN.
                                                                                                                                                                                                                                                                                                                                                                                           Plam; PE00042; globin; 1.
PRINTS; PR00612; ALPHAHAEM.
PROSITE; PS01043; GLOBIN; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL: AF129141: AAB93467.1; -:
EMBL: AF129140: AAB93467.1; JOINED
HSSP; P01958; 11BE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARONDAL E.A., Chord J.B.:
SIMILARITY TO GLOBLY FAMILY
-1: SIMILARITY TO GLOBLY FAMILY
-1: SIMILARITY TO GLOBLY FAMILY.
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01-NoV 1999 (TrEMBLrel, 12, Created)

01-NoV 1999 (TrEMBLrel, 12, Last sequence update)

01-MAR-2001 (TrEMBLrel, 16, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                            Erythrocyte; Home: Oxygen transport; Respiratory protein SEQUENCE 142 AA; 15229 MW; 948491511501D174 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Equis (abadilus przewalskii (Frzewalskiis horse).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHXSEG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Phylogenetic relationships within the genus Equus and the evolution of alpha and theta globin genes.":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Oakenfull E.A., Clegg J.B.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE 99065770; PubMed: 9847414;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro: [PR000971;
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                                                                                                                                                                                                   44 FPHFDLSHGSAQV 56
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100.0%; Pred. No
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Eukaryota: Metazoa: Chordata; Crimiata: Vertebrata: Euteleostomi: Mammalia: Eutheria: Perissodactyia: iquid.e: Equus.

NOBIL CAXID 9794: [1] SEQUENCE FROM N.A

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Query Match
Best Local Similarity
    Matches
   Conservative
            100.0%;
                       80.0%;
           Score 72; DB 6; Pred. No. 2.4e-(
  .?
   Mismatches
           2.4e-05.
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Query Match
Best Local:
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                                                                                                                        Oakenful E.A., Clegg J.B.;
Submitted (PEB-1959) to the EMBL/Genkerk/PDR/ databases
-!- SIMILARITY: TO GLOBA HAEMOGLOBIN FAMILY.
-!- SIMILARITY: TO ALPHA HAEMOGLOBIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                      01-MAY-2000 (TrEMEIrel 13, Created)
01-MAY-2000 (TrEMEIrel 13, Last sequence update)
01-MAR-2001 (TEMEIrel 16, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam: PE00042; globin: 1.
PRINTS: PR00612; ALPHANAEM.
PROSTTE: PS01033; Glorin: 1
Erythrocyte: Hemo: Oxygen transport; Respiratory protein.
SEQUENCE: 142 AA: 15211 MW; 92A452F999949924 ORG64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBI: AF129139; AAB93466.1; JOINED HSSP; P01958; 1TBE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Oakenfull E.A., Clegg 1.8.; Submitted (PER-1999) to the EMBL/GenFank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oakonfull E.A., Clegg J.B.;
"Phylogenetic relationships within the genus Banus and the evolution of alpha and theta find genes.":
J. Mol. Evol. 47:772-783(1998).
                                                                                                                    EMBL;
                                                                                                                                                               [2]
SEQUENCE FROM N.A. Clegg J.B.:
                                                                                                                                                                                                                          Oakenfuli E.A., Clegg J.B.; "Phylogenetic relationships within the genus Equus and the evolution of alpha and theta globin genes.";
                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. PabMod-9847419:
                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9794;
                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa; Chordata, Craniata, Verte
Mammalia; Eutheria; Perissodactyla; Equidac;
                                                                                                                                                                                                                                                                                                                                              Equus hemionus (kulan).
                                                                                                                                                                                                                                                                                                                                                            ALPHA 1 HEMOGLOBIN
                                                                                                                                                                                                                                                                                                                                                                                                                            Q9TVA4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro: IPR000971; - InterPro: IPR002338; -
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-!- SIMILARITY: TO ALPHA HAEMOGLOBIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=99065770; PubMed=9847419;
 Erythrocyte: Hemo: Oxygen transport; Respiratory protein SEQUENCE 142 AA; 15206 MW; 828837BC14C1b182 CkC64;
                                      InterPro: IPR002338; -.
Pfam; PF00042; globin; 1.
PRINTS: PR00612; ALPHAHAEM.
                          PROSITE: PS01033; GLOBIN; 1
                                                                                           HSSP;
                                                                               InterPro: IPR000971; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             44 FPHFELSHGSAQV 56
                                                                                                                                                                                                                MOL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 FPHFFLSHGSAQV 14
                                                                                           P61958; 11BE.
                                                                                                         AF129136;
                                                                                                                      AF129137;
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                                                                                                     TO ALPHA HAEMOGLOBIN FAMILY AAB93455.1: -. AAB93465.1: JOINED.
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Prod No 2 40-05;
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                                                                                                                                                                                                                                                                                                                               Vertebrata; Euteleostomi;
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O9TTS1
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                                                                                           ALPHA GLOBIN.
                                                                                                                                                                                                                                                                                                                                                           SEQUENCE :
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Query Match
Best Local Similarity
Matches 13; Conserv
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Rullo R., Pleragostini E., Vincenti D., Campanile C., Di Luccia A.; "Nucleotide sequence of Podolian cattle (Bos taurus primidenius) alpha globin denes."; Cibmittod (MAY-1946) to the EMPL Coopin, Jupil databases. ": SIMILARITY: TO GLOBIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE 99065770; PubMed-9847419;
cakenfull E.A., Clegg J.B.;
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01-MAY-2000 (TERMBLEEL 13, Last sequence update)
01-MAF 2001 (TERMBLEEL 16, Last annotation update)
ALPHA 2 HEMOGLOBIN
                                                                                                                                                                                            Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Futeleostomi;
Mammalia; Eutheria; Cetartiudaetyla; Euminantia; Pecora; Hovoidea
                                                                                                                                                                                                                                                                             HEMOGLOBIN ALPHA CHAIN.
                                                                                                                                                                                                                                                                                             01-MAY-2000 (TYEMBLIFEL 13, 01-MAY-2000 (TYEMBLIFEL 13, 01-MAR-2001 (TYEMBLIFEL 16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dakenfull E.A., Clegg J.B.;
Submitted (FPH-1999) to the FMBL/GenBank/DDB1 databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria; Perissedactyla; Equidae; Equus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Equns burchelli (Plains zebra) (Equus quaqqa).
Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
                                                                                                   STRAIN-PODOLIAN;
                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                           NCBI_TaxID-9913;
                                                                                                                                                                               Bovidae, Bovinae, Bos.
                                                                                                                                                                                                                                       Bos taurus (Bovine).
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PRINTS: PR00612; ALPHAHAEM.
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EMBL; AF129134; AAB93462.1; JOINED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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15190 MW; 8E7837BC0801D8B5 CRC54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            190.0%;
                                                                                                                                                                                                                                                                                                                Last.
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                                                                                                                                                                                                                                                                                                 Last annotation update)
                                                                                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. 2.4e-05
                                                                                                                                                                                                                                                                                                                                                                            PRT;
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DE EMBL: ALGAZOTA PARCHAZALE.

DRE HASE, POLTOS, THROMOVALE.

DRE HASE, POLTOS, THROMOVALE.

DRE HASE, POLTOS, THROMOVALE.

DRE HASE, PRODOLA; ALGEBRACH.

DRE FLAM: PRODOLA; ALGEBRACH.

DRE POLINTS, PRODOLA; ALGEBRACH.

EN ENVELOPMENTE CROTOCK; GLOCKUR; L.

KW. ECYPLICONYCLE: HOME: CONYECT ALGEBRACH.

SQ. SEQUENCE 142 AA: 15184 MM; GDZOCALDASCORES CROS4;

CONCEY MATCH

ENDITORY THROMOVER TO THROMOVER AGENCY AND ALGEBRACH.

DR. SECURITY MATCH

CONTROL THROMOVER AGENCY TO THROMOVER AGENCY.

WATCHES 15; CONSCIPLINE OF MISMATCHES OF HASE OF AGENCY.

DR. FERFOLSHESALV 14

DR. FERFOLSHESALV 14

SCOLICH COMPLETENT AGENCY AGENCY.

SCOLICH COMPLETENT AGENCY.

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